

IDENTIFICATION

PRODUCT CODE:	MAINDEC-8E-D008
PRODUCT NAME:	POP-9/E INSTRUCTION TEST 2
DATE CREATED:	JUNE 10, 1971
MAINTAINER:	DIAGNOSTIC GROUP
AUTHOR:	ED. FORTMILLER





1. ABSTRACT

THIS PROGRAM IS AN EXTENSIVE TEST OF AUTOINDEXING, INDIRECT ADDRESSING, AND THE DCA INSTRUCTION FOR THE PDP-8/E. IT ALSO OFFERS MINIMAL TESTING FOR INTERRUPT AND THE AND, TAD, ISZ, JMS, JMP, AND PROCESSOR IOT INSTRUCTIONS.

2. REQUIREMENTS

2.1 EQUIPMENT

PDP-8/E EQUIPPED WITH TELETYPE

2.2 STORAGE

THE PROGRAM OCCUPIES MEMORY LOCATIONS 0000-4416.  
THE BINARY LOADER MUST BE STORED IN THE LAST MEMORY PAGE.

2.3 PRELIMINARY PROGRAMS

IT IS ASSUMED THAT MAINDEC-8E-00A(N) HAS BEEN RUN SUCCESSFULLY.

3. LOADING PROCEDURE

3.1 METHOD

THE STANDARD BINARY LOADER IS USED.

4. STARTING PROCEDURE

4.1 CONTROL SWITCH SETTINGS (NONE)

4.2 STARTING ADDRESS

200

4.3 OPERATOR ACTION

A. SET THE SWITCH REGISTER TO 200. PRESS LOAD ADDRESS.

B. PUSH CLEAR AND THEN CONTINUE. A PROGRAMMED HALT OCCURS WHEN AN ERROR IS ENCOUNTERED.

- 5. OPERATING PROCEDURE  
SAME AS SECTION 4.
- 6. ERRORS
  - 6.1 ERROR HALTS AND DESCRIPTION  
SEE LISTING.
  - 6.2 ERROR RECOVERY  
IF IT IS DESIRED TO LOOP ON THE TEST CAUSING THE ERROR,  
REPLACE THE OPERATE INSTRUCTION PRECEDING THE HLT WITH A  
JMP TO THE BEGINNING OF THE TEST.
- 7. RESTRICTIONS
- 8. MISCELLANEOUS
  - 8.1 EXECUTION TIME  
ALL PERIPHERAL DEVICES MUST BE FUNCTIONING TO A DEGREE THAT  
THE PROCESSOR CLEAR BUTTON WILL CLEAR THEIR FLAGS AND NO  
FLAGS WILL TURN ON UNLESS AUTHORIZED.  
THE TELETYPE BELL RINGS AT THE END OF 1500 PROGRAM PASSES  
WHICH IS APPROXIMATELY EVERY 5 SECONDS.

9. PROGRAM DESCRIPTION

THE PROGRAM IS A SERIES OF MANY SMALL INDIVIDUAL TEST. EACH TEST IS PERFORMED USING PREVIOUSLY CHECK FUNCTINS TO VALIDATE THE TEST. WHEN AN ERROR IS ENCOUNTERED, THE OPERATOR SHOULD INSERT A JUMP INSTRUCTION INTO MEMORY TO CAUSE THE PROGRAM TO LOOP ON THE FAILING TEST. THE PROBLEM CAN THEN BE FOUND BY USING THE OSCILLOSCOPE.

THE INDIVIDUAL PROGRAM TESTS ARE GROUPED INTO THE FOLLOWING CLASSIFICATIONS AND ARE PERFORMED IN THE ORDER SHOWN:

1. DCA TEST

2. INDIRECT ADDRESSING TEST

- A. USING TAD
- B. USING AND

3. AUTOINDEX TEST

- A. USING AND
- B. USING DCA
- C. USING TAD

4. PROCESSOR IOT TEST

- A. USING CAP
- B. USING SRQ
- C. USING SPF
- D. USING KIE
- E. USING SKON
- F. USING ION
- G. USING IOT
- H. USING STP
- I. USING RTF

5. INTERRUPT TEST

- A. FOLLOWING NOP
- B. FOLLOWING TAD
- C. FOLLOWING AND
- D. FOLLOWING DCA
- E. FOLLOWING ISZ
- F. FOLLOWING JMP
- G. FOLLOWING JMS
- H. FOLLOWING CLA
- I. FOLLOWING TSF
- J. FOLLOWING SKP
- K. FOLLOWING JMP 1

6. CHECK FOR UNAUTHORIZED AUTOINDEXING

THE TELETYPE BELL RINGS APPROXIMATELY EVERY 5 SECONDS TO ASSURE THE OPERATOR THAT THE PROGRAM IS FUNCTIONING PROPERLY.

10. LISTING

/PDP-8/E INSTRUCTION TEST 2 MAINDEC-8E-D08B  
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```

6000 SKON=6000 /SKIP IF INTERRUPT ON AND TURN INTERRUPT OFF
6003 SRD=6003 /SKIP IF INTERRUPT REQUEST
6004 CTF=6004 /GET INTERRUPT FLAGS
6005 RTF=6005 /RESTORE INTERRUPT FLAGS AND TURN INTERRUPT ON
6007 CAF=6007 /CLEAR ALL FLAGS, AC, LINK, AND ENABLE TTY INTERRUPT F.F.
6040 SPF=6040 /SET PRINTER FLAG
6035 KIE=6035 /ENABLE TTY INTERRUPT F.F. WHEN AC 11 EQUALS A 1
7002 BSM=7002 /SHAP BYTE$ IN AC
  
```

```

0000 *0 /LOC 0
0001 JMP 1 /LOC 1
0002 2 /LOC 2
0003 3 /LOC 3
  
```

```

0007 *7
      B
      /CONSTANTS AND VARIABLES
  
```

```

0020 0020 *20
0021 7777 K7777, 7777
0022 3777 K3777, 3777
0023 5777 K5777, 5777
0024 6777 K6777, 6777
0025 7377 K7377, 7377
0026 7577 K7577, 7577
0027 7677 K7677, 7677
0030 7737 K7737, 7737
0031 7757 K7757, 7757
0032 7767 K7767, 7767
0033 7775 K7775, 7775
0034 7775 K7775, 7775
0035 7776 K7776, 7776
0036 0000 K0, 0
0037 1777 K1777, 1777
0040 0777 K0777, 0777
0041 0377 K0377, 0377
0042 0177 K0177, 0177
0043 0077 K0077, 0077
0044 0037 K0037, 0037
0045 0017 K0017, 0017
0046 0007 K0007, 0007
0047 0003 K0003, 0003
0050 0000 0
0051 0001 K0001, 0001
0052 4400 K4400, 4400
0053 4577 K4577, 4577
0054 2525 K2525, 2525
  
```

0055	6666	K6666,	6666
0056	4444	K4444,	4444
0057	7070	K7070,	7070
0060	0707	K0707,	0707
0061	5252	K5252,	5252
0062	1111	K1111,	1111
0063	5555	K5555,	5555
0064	5200	K5200,	5200
0065	0004	K4,	4

0110	0110	*110	0	
	0172	*172		
0172	0176	K176,	176	/LOG 172
0173	0172	K172,	172	/173
0174	0173	K173,	173	/174
0175	0174	K174,	174	/175
0176	0175	K175,	175	/176
0177	1234	K1234,	1234	/177

0200	0200	*200		
	7200	/DCA TEST 1		
0201	7410	CLA		
0202	0000	SKP		
0203	1092	0		
0204	3377	TAD K4400		
0205	7440	DCA TP177		
0206	7402	SEA		
0207	7410	HLT		
0210	0000	SKP		
0211	1052	0		
0212	7041	TAD K4400		
0213	1377	CIA		
0214	7440	TAD TP177		
0215	7402	SEA		
		HLT		

/DCA DID NOT CLEAR AC

/AC=-(4400)

/DCA FAILED

/AC SHOULD EQUAL ZERO

/DCA TEST 2

0216	7200	CLA		
0217	1053	TAD K4577		
0220	3202	DCA TP0		
0221	7440	SEA		
0222	7402	HLT		
0223	1093	TAD K4577		
0224	7041	CIA		
0225	1202	TAD TP0		
0226	7440	SEA		
0227	7402	HLT		

/DCA DID NOT CLEAR AC

/DCA FAILED

/AC SHOULD EQUAL ZERO

/DCA TEST 3

02300	72000	CLA
02311	10200	TAD K7777
02332	32020	DCA TP0
02333	74400	SEA
02334	74020	HLT
02335	12020	TAD TP0
02336	70400	CHA
02337	74400	SEA
02340	74020	HLT

/DCA DID NOT CLEAR AC

/DCA FAILED  
/AC SHOULD BE ZERO

/DCA TEST 4

02411	72000	CLA
02422	10336	TAD KB
02433	32020	DCA TP0
02444	74400	SEA
02445	74020	HLT
02446	12020	TAD TP0
02447	74400	SEA
02450	74020	HLT

/DCA DID NOT CLEAR AC

/DCA FAILED  
/AC SHOULD BE ZERO

/DCA TEST 5

02511	72000	CLA
02522	10554	TAD K2525
02533	32020	DCA TP0
02544	74400	SEA
02555	74020	HLT
02556	10554	TAD K2525
02557	70411	CIA
02560	12020	TAD TP0
02561	74400	SEA
02562	74020	HLT

/DCA DID NOT CLEAR AC

/DCA FAILED  
/AC SHOULD BE ZERO

/DCA TEST 6

02630	72000	CLA
02644	10555	TAD K6666
02655	32020	DCA TP0
02666	74400	SEA
02677	74020	HLT
02700	10555	TAD K6666
02711	70411	CIA
02722	12020	TAD TP0
02733	74400	SEA
02744	74020	HLT

/DCA DID NOT CLEAR AC

/DCA FAILED  
/AC SHOULD BE ZERO



/DCA TEST 7

0275	7200	CLA
0276	1056	TAD K4444
0277	5377	DCA TP177
0300	7440	SEA
0301	7402	HLT
0302	1056	TAD K4444
0303	7041	CIA
0304	1377	TAD TP177
0305	7440	SEA
0306	7402	HLT

/DCA DID NOT CLEAR AC

/DCA FAILED  
/AC SHOULD BE ZERO

/DCA TEST 8

0307	7200	CLA
0310	1057	TAD K7070
0311	5377	DCA TP177
0312	7440	SEA
0313	7402	HLT
0314	1057	TAD K7070
0315	7041	CIA
0316	1377	TAD TP177
0317	7440	SEA
0320	7402	HLT

/DCA DID NOT CLEAR AC

/DCA FAILED  
/AC SHOULD BE ZERO

/DCA TEST 9

0321	7200	CLA
0322	1060	TAD K0707
0323	5000	DCA 0
0324	7440	SEA
0325	7402	HLT
0326	1060	TAD K0707
0327	7041	CIA
0330	1000	TAD 0
0331	7440	SEA
0332	7402	HLT

/DCA DID NOT CLEAR AC

/DCA FAILED  
/AC SHOULD BE ZERO

/DCA TEST 10

0333	7200	CLA
0334	1061	TAD K5252
0335	5000	DCA 0
0336	7440	SEA
0337	7402	HLT
0340	1061	TAD K5252
0341	7041	CIA
0342	1000	TAD 0
0343	7440	SEA
0344	7402	HLT

/DCA DID NOT CLEAR AC

/DCA FAILED  
/AC SHOULD BE ZERO

/DCA TEST 11

0345	7200	CLA
0346	1062	TAD K1111
0347	3000	DCA 0
0350	7440	SEA
0351	7402	HLT
0352	1062	TAD K1111
0353	7041	CIA
0354	1000	TAD 0
0355	7440	SEA
0356	7402	HLT

/DCA DID NOT CLEAR AC

/DCA TEST 12

0357	7200	CLA
0360	1063	TAD K5555
0361	3000	DCA 0
0362	7440	SEA
0363	7402	HLT
0364	1063	TAD K5555
0365	7041	CIA
0366	1000	TAD 0
0367	7440	SEA
0370	7402	HLT

/DCA FAILED  
/AC SHOULD BE ZERO

/DCA DID NOT CLEAR AC

0371	7000	NOP
0372	7000	NOP
0373	7000	NOP
0374	7000	NOP
0375	7000	NOP
0376	7410	SKP
0377	0000	0

TP177, 0

0400

/INDIRECT ADDRESSING TEST 1

0400	7200	CLA
0401	1442	TAD 1 K0177
0402	7041	CIA
0403	1177	TAD K1234
0404	7440	SEA
0405	7402	HLT

/OPERAND=1234  
/TAD INDIRECT FAILED  
/AC SHOULD BE ZERO

/INDIRECT ADDRESSING TEST 2

0406	7200	CLA
0407	7410	SKP
0410	0000	0

0411 1020 TAD K7777  
 0412 0442 AND I K0177 /OPERAND=1234  
 0413 7041 CIA  
 0414 1177 TAD K1234  
 0415 7440 SEA  
 0416 7402 HLT  
 /AND INDIRECT FAILED  
 /AC SHOULD BE ZERO

/INDIRECT ADDRESSING TEST 3

0417 7200 CLA  
 0420 1020 TAD K7777  
 0421 3000 DCA 0  
 0422 2436 ISZ I K0  
 0423 7402 HLT  
 0424 1000 TAD 0  
 0425 7440 SEA  
 0426 7402 HLT  
 /ISZ FAILED. NO SKIP  
 /ISZ INDIRECT FAILED  
 /AC SHOULD BE 0

/INDIRECT ADDRESSING TEST 4

0427 7200 CLA  
 0430 1572 TAD I K176 /OPERAND=175  
 0431 7041 CIA  
 0432 1176 TAD K175  
 0433 7440 SEA  
 0434 7402 HLT  
 /TAD INDIRECT FAILED  
 /AC SHOULD BE ZERO

/INDIRECT ADDRESSING TEST 5

0435 7200 CLA  
 0436 1020 TAD K7777  
 0437 0572 AND I K176 /OPERAND=175  
 0440 7041 CIA  
 0441 1176 TAD K175  
 0442 7440 SEA  
 0443 7402 HLT  
 /AND INDIRECT FAILED  
 /AC SHOULD BE ZERO

/INDIRECT ADDRESSING TEST 6

0444 7200 CLA  
 0445 1172 TAD K176  
 0446 3000 DCA 0  
 0447 2436 ISZ I K0  
 0450 7410 SKP  
 0451 7402 HLT  
 0452 1000 TAD 0  
 0453 7041 CIA  
 0454 1172 TAD K176  
 0455 7040 CMA  
 0456 7440 SEA  
 0457 7402 HLT  
 /ISZ SKIPPED ILLEGALLY  
 /DCA INDIRECT FAILED

/AC SHOULD BE ZERO

/INDIRECT ADDRESSING TEST 7

0460	7200	CLA		
0461	1573	TAD I K172	/OPERAND=176	
0462	7041	CIA		
0463	1172	TAD K176		
0464	7440	SEA	/TAD INDIRECT FAILED	
0465	7402	HLT	/AC SHOULD BE ZERO	

/INDIRECT ADDRESSING TEST 8

0466	7200	CLA		
0467	1020	TAD K7777	/OPERAND=176	
0470	0573	AND I K172		
0471	7041	CIA		
0472	1172	TAD K176		
0473	7440	SEA	/AND INDIRECT FAILED	
0474	7402	HLT	/AC SHOULD BE ZERO	

/INDIRECT ADDRESSING TEST 9

0475	7200	CLA		
0476	1173	TAD K172		
0477	2000	DCA 0		
0500	2936	ISE I K0		
0501	7410	SKP		
0502	7402	HLT	/ISE SKIPPED ILLEGALLY	
0503	1000	TAD 0		
0504	7041	CIA		
0505	1173	TAD K172		
0506	7040	CMA		
0507	7440	SEA		
0510	7402	HLT	/DCA INDIRECT FAILED	
			/AC SHOULD BE ZERO	

/INDIRECT ADDRESSING TEST 10

0511	7200	CLA		
0512	1574	TAD I K173	/OPERAND=172	
0513	7041	CIA		
0514	1173	TAD K172		
0515	7440	SEA		
0516	7402	HLT	/TAD INDIRECT FAILED	
			/AC SHOULD BE ZERO	

/INDIRECT ADDRESSING TEST 11

0517	7200	CLA		
0520	1020	TAD K7777	/OPERAND=172	
0521	0574	AND I K173		
0522	7041	CIA		

0523 1173  
0524 7440  
0525 7402

TAD K172  
SEA  
HLT

/AND INDIRECT FAILED  
/AC SHOULD BE ZERO

/INDIRECT ADDRESSING TEST 12

0526 7200  
0527 1174  
0530 3000  
0531 2436  
0532 7410  
0533 7402  
0534 1000  
0535 7041  
0536 1174  
0537 7040  
0540 7440  
0541 7402

CLA  
TAD K173  
DCA 0  
ISE I K0  
SKP  
HLT  
TAD 0  
CIA  
TAD K173  
GMA  
SEA  
HLT

/DCA INDIRECT FAILED  
/AC SHOULD BE ZERO

/ISE SKIPPED ILLEGALLY

/INDIRECT ADDRESSING TEST 13

0542 7200  
0543 1575  
0544 7041  
0545 1174  
0546 7440  
0547 7402

CLA  
TAD I K174  
CIA  
TAD K173  
SEA  
HLT

/TAD INDIRECT FAILED  
/AC SHOULD BE ZERO

/OPERAND=173

/INDIRECT ADDRESSING TEST 14

0550 7200  
0551 1020  
0552 0575  
0553 7041  
0554 1174  
0555 7440  
0556 7402

CLA  
TAD K7777  
AND I K174  
CIA  
TAD K173  
SEA  
HLT

/AND INDIRECT FAILED  
/AC SHOULD BE ZERO

/OPERAND=173

/INDIRECT ADDRESSING TEST 15

0557 7200  
0560 1175  
0561 3000  
0562 2436  
0563 7410  
0564 7402  
0565 1000  
0566 7041  
0567 1175  
0570 7040  
0571 7440  
0572 7402

CLA  
TAD K174  
DCA 0  
ISE I K0  
SKP  
HLT  
TAD 0  
CIA  
TAD K174  
GMA  
SEA  
HLT

/ISE SKIPPED ILLEGALLY

/DCA INDIRECT FAILED

0573 5377  
0574 7000  
0575 7000  
0576 7000  
0577 7000

JMP .+4  
NOP  
NOP  
NOP  
NOP

/AC SHOULD BE ZERO

0600 \*600  
/INDIRECT ADDRESSING TEST 16

0600 7200  
0601 1576  
0602 7041  
0603 1175  
0604 7440  
0605 7402

CLA  
TAD I K175  
CIA  
TAD K174  
SEA  
HLT

/OPERAND=174

/TAD INDIRECT FAILED  
/AC SHOULD BE ZERO

/AUTO INDEX TEST 1

0606 7200  
0607 1035  
0610 5010  
0611 0410  
0612 1010  
0613 1035  
0614 7040  
0615 7440  
0616 7402

CLA  
TAD K0  
DCA 10  
AND I 10  
TAD 10  
TAD K7776  
CHA  
SEA  
HLT

/CONSTANT TO BE INDEXED  
/DO AUTO INDEX

/AC SHOULD BE ZERO  
/AC SHOULD EQUAL 7777

/AC SHOULD BE ZERO  
/AUTO INDEX ERROR

/AUTO INDEX TEST 2

0617 7200  
0620 1035  
0621 5010  
0622 0410  
0623 1010  
0624 1035  
0625 7040  
0626 7440  
0627 7402

CLA  
TAD K7776  
DCA 10  
AND I 10  
TAD 10  
TAD K0  
CHA  
SEA  
HLT

/CONSTANT TO BE INDEXED  
/DO AUTO INDEX

/AC SHOULD BE ZERO  
/AC SHOULD EQUAL 7777

/AC SHOULD BE ZERO  
/AUTO INDEX ERROR

/AUTO INDEX TEST 3

0630 7200  
0631 1034  
0632 5010  
0633 3410  
0634 1010  
0635 1051  
0636 7040  
0637 7440  
0640 7402

CLA  
TAD K7775  
DCA 10  
DCA I 10  
TAD 10  
TAD K0001  
CHA  
SEA  
HLT

/CONSTANT TO BE INDEXED  
/DO AUTO INDEX

/AC SHOULD BE ZERO  
/AC SHOULD EQUAL 7777

/AC SHOULD BE ZERO  
/AUTO INDEX ERROR

0641 7200  
 0642 1033  
 0643 3010  
 0644 1410  
 0645 7200  
 0646 1010  
 0647 1047  
 0650 7040  
 0651 7440  
 0652 7402

/AUTO INDEX TEST 4  
 CLA  
 TAD K7773  
 DCA 10  
 TAD I 10  
 CLA  
 TAD 10  
 TAD K0003  
 CMA  
 SEA  
 HLT

/CONSTANT TO BE INDEXED  
 /DD AUTO INDEX  
 /AC SHOULD BE ZERO  
 /AUTO INDEX ERROR

/AUTO INDEX TEST 5

0653 7200  
 0654 1032  
 0655 3010  
 0656 0410  
 0657 1010  
 0660 1046  
 0661 7040  
 0662 7440  
 0663 7402

CLA  
 TAD K7767  
 DCA 10  
 AND I 10  
 TAD 10  
 TAD K0007  
 CMA  
 SEA  
 HLT

/CONSTANT TO BE INDEXED  
 /DD AUTO INDEX  
 /AC SHOULD BE ZERO  
 /AUTO INDEX ERROR

/AUTO INDEX TEST 6

0664 7200  
 0665 1031  
 0666 3010  
 0667 0410  
 0670 1010  
 0671 1045  
 0672 7040  
 0673 7440  
 0674 7402

CLA  
 TAD K7757  
 DCA 10  
 AND I 10  
 TAD 10  
 TAD K0017  
 CMA  
 SEA  
 HLT

/CONSTANT TO BE INDEXED  
 /DD AUTO INDEX  
 /AC SHOULD BE ZERO  
 /AUTO INDEX ERROR

/AUTO INDEX TEST 7

0675 7200  
 0676 1027  
 0677 3010  
 0700 0410  
 0701 1010  
 0702 1044  
 0703 7040  
 0704 7440  
 0705 7402

CLA  
 TAD K7737  
 DCA 10  
 AND I 10  
 TAD 10  
 TAD K0037  
 CMA  
 SEA  
 HLT

/CONSTANT TO BE INDEXED  
 /DD AUTO INDEX  
 /AC SHOULD BE ZERO  
 /AUTO INDEX ERROR

/AUTO INDEX TEST 8

0706 7200  
 0707 1026  
 0710 3010  
 0711 0410

CLA  
 TAD K7677  
 DCA 10  
 AND I 10

/CONSTANT TO BE INDEXED  
 /DD AUTO INDEX

0712 1010  
0713 1043  
0714 7040  
0715 7440  
0716 7402

TAD 10  
TAD K0077  
CHA  
SEA  
HLT

/AC SHOULD BE ZERO  
/AC SHOULD EQUAL 7777  
/AC SHOULD BE ZERO  
/AUTO INDEX ERROR

/AUTO INDEX TEST 9

0717 7200  
0720 1025  
0721 3010  
0722 0410  
0723 1010  
0724 1042  
0725 7040  
0726 7440  
0727 7402

CLA  
TAD K7577  
DCA 10  
AND 1 10  
TAD 10  
TAD K0177  
CHA  
SEA  
HLT

/CONSTANT TO BE INDEXED  
/DO AUTO INDEX  
/AC SHOULD BE ZERO  
/AC SHOULD EQUAL 7777  
/AC SHOULD BE ZERO  
/AUTO INDEX ERROR

/AUTO INDEX TEST 10

0730 7200  
0731 1024  
0732 3010  
0733 0410  
0734 1010  
0735 1041  
0736 7040  
0737 7440  
0740 7402

CLA  
TAD K7377  
DCA 10  
AND 1 10  
TAD 10  
TAD K0377  
CHA  
SEA  
HLT

/CONSTANT TO BE INDEXED  
/DO AUTO INDEX  
/AC SHOULD BE ZERO  
/AC SHOULD EQUAL 7777  
/AC SHOULD BE ZERO  
/AUTO INDEX ERROR

/AUTO INDEX TEST 11

0741 7200  
0742 1023  
0743 3010  
0744 0410  
0745 1010  
0746 1040  
0747 7040  
0750 7440  
0751 7402

CLA  
TAD K6777  
DCA 10  
AND 1 10  
TAD 10  
TAD K0777  
CHA  
SEA  
HLT

/CONSTANT TO BE INDEXED  
/DO AUTO INDEX  
/AC SHOULD BE ZERO  
/AC SHOULD EQUAL 7777  
/AC SHOULD BE ZERO  
/AUTO INDEX ERROR

/AUTO INDEX TEST 12

0752 7200  
0753 1022  
0754 3010  
0755 2410  
0756 7000  
0757 1010  
0760 1037  
0761 7040  
0762 7440  
0763 7402

CLA  
TAD K5777  
DCA 10  
1SE 1 10  
NOP  
TAD 10  
TAD K1777  
CHA  
SEA  
HLT

/CONSTANT TO BE INDEXED  
/DO AUTO INDEX  
/AC SHOULD BE ZERO  
/AC SHOULD EQUAL 7777  
/AC SHOULD BE ZERO  
/AUTO INDEX ERROR



/AUTO INDEX TEST 13

0764	7200	CLA	/CONSTANT TO BE INDEXED
0765	1021	TAD K3777	
0766	3010	DCA 10	/OO AUTO INDEX
0767	0410	AND I 10	
0770	1010	TAD 10	/AC SHOULD EQUAL 7777
0771	1021	TAD K3777	
0772	7040	CMA	
0773	7440	SEA	/AC SHOULD BE ZERO
0774	7402	HLT	/AUTO INDEX ERROR
0775	7000	NOP	
0776	7000	NOP	
0777	7000	NOP	

1000 41000

/AUTO INDEX TEST 14

1000	7200	CLA	/CONSTANT TO BE INDEXED
1001	1020	TAD K7777	
1002	3010	DCA 10	/OO AUTO INDEX
1003	0410	AND I 10	
1004	1010	TAD 10	/AC SHOULD EQUAL 7777
1005	1020	TAD K7777	
1006	7040	CMA	
1007	7410	SKP	
1010	0000	0	
1011	7440	SEA	/AC SHOULD BE ZERO
1012	7402	HLT	/AUTO INDEX ERROR

/AUTO INDEX TEST 15

1013	7200	CLA	/CONSTANT TO BE INDEXED
1014	1036	TAD K0	
1015	3011	DCA 11	/OO AUTO INDEX
1016	0411	AND I 11	
1017	1011	TAD 11	/AC SHOULD EQUAL 7777
1020	1035	TAD K7776	
1021	7040	CMA	/AC SHOULD BE ZERO
1022	7440	SEA	/AUTO INDEX ERROR
1023	7402	HLT	

/AUTO INDEX TEST 16

1024	7200	CLA	/CONSTANT TO BE INDEXED
1025	1035	TAD K7776	
1026	3011	DCA 11	/OO AUTO INDEX
1027	0411	AND I 11	
1030	1011	TAD 11	/AC SHOULD EQUAL 7777
1031	1036	TAD K0	
1032	7040	CMA	

1033 7440 SEA /AC SHOULD BE ZERO  
1034 7402 HLT /AUTO INDEX ERROR

/AUTO INDEX TEST 17

1035 7200 CLA /CONSTANT TO BE INDEXED  
1036 1034 TAD K7779 /DO AUTO INDEX  
1037 3011 DCA I 11 /AC SHOULD EQUAL 7777  
1040 3411 DCA I 11  
1041 1011 TAD I 11  
1042 1051 TAD K0001  
1043 7040 CMA /AC SHOULD BE ZERO  
1044 7440 SEA /AUTO INDEX ERROR  
1045 7402 HLT

/AUTO INDEX TEST 18

1046 7200 CLA /CONSTANT TO BE INDEXED  
1047 1033 TAD K7773 /DO AUTO INDEX  
1050 3011 DCA I 11  
1051 1411 TAD I 11  
1052 7200 CLA /AC SHOULD EQUAL 7777  
1053 1011 TAD I 11  
1054 1047 TAD K0003  
1055 7040 CMA /AC SHOULD BE ZERO  
1056 7440 SEA /AUTO INDEX ERROR  
1057 7402 HLT

/AUTO INDEX TEST 19

1060 7200 CLA /CONSTANT TO BE INDEXED  
1061 1032 TAD K7767 /DO AUTO INDEX  
1062 3011 DCA I 11  
1063 0411 AND I 11  
1064 1011 TAD I 11  
1065 1046 TAD K0007  
1066 7040 CMA /AC SHOULD BE ZERO  
1067 7440 SEA /AUTO INDEX ERROR  
1070 7402 HLT

/AUTO INDEX TEST 20

1071 7200 CLA /CONSTANT TO BE INDEXED  
1072 1031 TAD K7797 /DO AUTO INDEX  
1073 3011 DCA I 11 /AC SHOULD EQUAL 7777  
1074 0411 AND I 11  
1075 1011 TAD I 11  
1076 1045 TAD K0017  
1077 7040 CMA /AC SHOULD BE ZERO  
1080 7440 SEA /AUTO INDEX ERROR  
1101 7402 HLT

/AUTO INDEX TEST 21

1102 7200 CLA /CONSTANT TO BE INDEXED  
1103 1027 TAD K7737  
1104 3011 DCA I 11

1105 0411 AND I 11  
 1106 1011 TAD 11  
 1107 1044 TAD K0037  
 1110 7040 CMA  
 1111 7440 SEA  
 1112 7402 HLT

/DO AUTO INDEX  
 /AC SHOULD EQUAL 7777  
 /AC SHOULD BE ZERO  
 /AUTO INDEX ERROR

/AUTO INDEX TEST 22

1113 7200 CLA  
 1114 1026 TAD K7677  
 1115 3011 DCA 11  
 1116 0411 AND I 11  
 1117 1011 TAD 11  
 1120 1043 TAD K0077  
 1121 7040 CMA  
 1122 7440 SEA  
 1123 7402 HLT

/CONSTANT TO BE INDEXED  
 /DO AUTO INDEX  
 /AC SHOULD EQUAL 7777  
 /AC SHOULD BE ZERO  
 /AUTO INDEX ERROR

/AUTO INDEX TEST 23

1124 7200 CLA  
 1125 1025 TAD K7977  
 1126 3011 DCA 11  
 1127 0411 AND I 11  
 1130 1011 TAD 11  
 1131 1042 TAD K0177  
 1132 7040 CMA  
 1133 7440 SEA  
 1134 7402 HLT

/CONSTANT TO BE INDEXED  
 /DO AUTO INDEX  
 /AC SHOULD EQUAL 7777  
 /AC SHOULD BE ZERO  
 /AUTO INDEX ERROR

/AUTO INDEX TEST 24

1135 7200 CLA  
 1136 1024 TAD K7377  
 1137 3011 DCA 11  
 1140 0411 AND I 11  
 1141 1011 TAD 11  
 1142 1041 TAD K0377  
 1143 7040 CMA  
 1144 7440 SEA  
 1145 7402 HLT

/CONSTANT TO BE INDEXED  
 /DO AUTO INDEX  
 /AC SHOULD EQUAL 7777  
 /AC SHOULD BE ZERO  
 /AUTO INDEX ERROR

/AUTO INDEX TEST 25

1146 7200 CLA  
 1147 1023 TAD K6777  
 1150 3011 DCA 11  
 1151 0411 AND I 11  
 1152 1011 TAD 11  
 1153 1040 TAD K0777  
 1154 7040 CMA  
 1155 7440 SEA  
 1156 7402 HLT

/CONSTANT TO BE INDEXED  
 /DO AUTO INDEX  
 /AC SHOULD EQUAL 7777  
 /AC SHOULD BE ZERO  
 /AUTO INDEX ERROR

/AUTO INDEX TEST 26

1157 7200 CLA  
 1160 1022 TAD K5777

/CONSTANT TO BE INDEXED

```

1161 3011 DCA 11
1162 2411 ISE I 11
1163 7000 NOP
1164 1011 TAD 11
1165 1037 TAD K1777
1166 7040 CMA
1167 7440 SEA
1170 7402 HLT
1171 7000 NOP
1172 5376 JMP .+4
1173 7000 NOP
1174 7000 NOP
1175 7000 NOP
1176 7000 NOP
1177 7000 NOP

```

/AC SHOULD BE ZERO  
/AUTO INDEX ERROR

/AC SHOULD EQUAL 7777

PAUSE

/TEST 2 - TAPE 2

1200 41200

```

1200 7200 /AUTO INDEX TEST 27
1201 1021 CLA
1202 3011 TAD K3777
1203 0411 DCA 11
1204 1011 AND I 11
1205 1021 TAD 11
1206 1021 TAD K3777
1207 7440 CMA
1210 7440 SEA
1211 7402 HLT

```

/CONSTANT TO BE INDEXED  
/DO AUTO INDEX  
/AC SHOULD EQUAL 7777  
/AC SHOULD BE ZERO  
/AUTO INDEX ERROR

/AUTO INDEX TEST 28

```

1211 7200 /AUTO INDEX TEST 28
1212 1020 CLA
1213 3011 TAD K7777
1214 0411 DCA 11
1215 1011 AND I 11
1216 1020 TAD 11
1217 7040 TAD K7777
1220 7440 CMA
1221 7402 SEA
1221 7402 HLT

```

/CONSTANT TO BE INDEXED  
/DO AUTO INDEX  
/AC SHOULD EQUAL 7777  
/AC SHOULD BE ZERO  
/AUTO INDEX ERROR

/AUTO INDEX TEST 29

```

1222 7200 /AUTO INDEX TEST 29
1223 1036 CLA
1224 3012 TAD K0
1225 0412 DCA 12
1226 1012 AND I 12
1227 1035 TAD 12
1230 7040 TAD K7776
1230 7040 CMA

```

/CONSTANT TO BE INDEXED  
/DO AUTO INDEX  
/AC SHOULD EQUAL 7777

1231 7440  
1232 7402

SEA  
HLT  
/AC SHOULD BE ZERO  
/AUTO INDEX ERROR

/AUTO INDEX TEST 30

1233 7200  
1234 1035  
1235 3012  
1236 0412  
1237 1012  
1240 1036  
1241 7040  
1242 7440  
1243 7402

CLA  
TAD K7776  
DCA 12  
AND I 12  
TAD 12  
TAD K0  
CMA  
SEA  
HLT  
/CONSTANT TO BE INDEXED  
/DO AUTO INDEX  
/AC SHOULD EQUAL 7777  
/AC SHOULD BE ZERO  
/AUTO INDEX ERROR

/AUTO INDEX TEST 31

1244 7200  
1245 1034  
1246 3012  
1247 3412  
1250 1012  
1251 1051  
1252 7040  
1253 7440  
1254 7402

CLA  
TAD K7775  
DCA 12  
DCA I 12  
TAD 12  
TAD K0001  
CMA  
SEA  
HLT  
/CONSTANT TO BE INDEXED  
/DO AUTO INDEX  
/AC SHOULD EQUAL 7777  
/AC SHOULD BE ZERO  
/AUTO INDEX ERROR

/AUTO INDEX TEST 32

1255 7200  
1256 1033  
1257 3012  
1260 1412  
1261 7200  
1262 1012  
1263 1047  
1264 7040  
1265 7440  
1266 7402

CLA  
TAD K7773  
DCA 12  
TAD I 12  
CLA  
TAD 12  
TAD K0003  
CMA  
SEA  
HLT  
/CONSTANT TO BE INDEXED  
/DO AUTO INDEX  
/AC SHOULD EQUAL 7777  
/AC SHOULD BE ZERO  
/AUTO INDEX ERROR

/AUTO INDEX TEST 33

1267 7200  
1270 1032  
1271 3012  
1272 0412  
1273 1012  
1274 1046  
1275 7040  
1276 7440  
1277 7402

CLA  
TAD K7767  
DCA 12  
AND I 12  
TAD 12  
TAD K0007  
CMA  
SEA  
HLT  
/CONSTANT TO BE INDEXED  
/DO AUTO INDEX  
/AC SHOULD EQUAL 7777  
/AC SHOULD BE ZERO  
/AUTO INDEX ERROR

/AUTO INDEX TEST 34

1300 7200  
1301 1031  
1302 3012  
1303 0412

CLA  
TAD K7757  
DCA 12  
AND I 12  
/CONSTANT TO BE INDEXED  
/DO AUTO INDEX

1304 1012 TAD 12 /AC SHOULD BE ZERO  
1305 1045 TAD K0017 /AUTO INDEX ERROR  
1306 7040 CHA  
1307 7440 SEA  
1310 7402 HLT

/AUTO INDEX TEST 35

1311 7200 CLA /CONSTANT TO BE INDEXED  
1312 1027 TAD K7737 /DO AUTO INDEX  
1313 3012 DCA 12 /AC SHOULD BE ZERO  
1314 0412 AND I 12 /AUTO INDEX ERROR  
1315 1012 TAD 12  
1316 1044 TAD K0037  
1317 7040 CHA  
1320 7440 SEA  
1321 7402 HLT

/AUTO INDEX TEST 36

1322 7200 CLA /CONSTANT TO BE INDEXED  
1323 1026 TAD K7677 /DO AUTO INDEX  
1324 3012 DCA 12 /AC SHOULD BE ZERO  
1325 0412 AND I 12 /AUTO INDEX ERROR  
1326 1012 TAD 12  
1327 1043 TAD K0077  
1330 7040 CHA  
1331 7440 SEA  
1332 7402 HLT

/AUTO INDEX TEST 37

1333 7200 CLA /CONSTANT TO BE INDEXED  
1334 1025 TAD K7577 /DO AUTO INDEX  
1335 3012 DCA 12 /AC SHOULD BE ZERO  
1336 0412 AND I 12 /AUTO INDEX ERROR  
1337 1012 TAD 12  
1340 1042 TAD K0177  
1341 7040 CHA  
1342 7440 SEA  
1343 7402 HLT

/AUTO INDEX TEST 38

1344 7200 CLA /CONSTANT TO BE INDEXED  
1345 1024 TAD K7377 /DO AUTO INDEX  
1346 3012 DCA 12 /AC SHOULD BE ZERO  
1347 0412 AND I 12 /AUTO INDEX ERROR  
1350 1012 TAD 12  
1351 1041 TAD K0377  
1352 7040 CHA  
1353 7440 SEA  
1354 7402 HLT

/AUTO INDEX TEST 39

1355 7200 CLA /CONSTANT TO BE INDEXED  
1356 1023 TAD K6777 /DO AUTO INDEX  
1357 3012 DCA 12 /AC SHOULD BE ZERO  
/AUTO INDEX ERROR

1360 0412  
 1361 1012  
 1362 1040  
 1363 7040  
 1364 7440  
 1365 74E2

AND I 12  
 TAD 12  
 TAD K0777  
 CMA  
 CMA  
 SEA  
 HLT

/DO AUTO INDEX  
 /AC SHOULD EQUAL 7777  
 /AC SHOULD BE ZERO  
 /AUTO INDEX ERROR

1366 72E0  
 1367 1022  
 1370 3012  
 1371 2412  
 1372 70E0  
 1373 1012  
 1374 1037  
 1375 7040  
 1376 7440  
 1377 7402

CLA  
 TAD K5777  
 DCA 12  
 ISE I 12  
 NOP  
 TAD 12  
 TAD K1777  
 CMA  
 SEA  
 HLT

/AUTO INDEX TEST 40  
 /CONSTANT TO BE INDEXED  
 /DO AUTO INDEX  
 /AC SHOULD EQUAL 7777  
 /AC SHOULD BE ZERO  
 /AUTO INDEX ERROR

1400 1400  
 1401 1021  
 1402 3012  
 1403 0412  
 1404 1012  
 1405 1021  
 1406 7040  
 1407 7440  
 1410 7402

CLA  
 TAD K3777  
 DCA 12  
 AND I 12  
 TAD 12  
 TAD K3777  
 CMA  
 SEA  
 HLT

\*1400  
 /AUTO INDEX TEST 41  
 /CONSTANT TO BE INDEXED  
 /DO AUTO INDEX  
 /AC SHOULD EQUAL 7777  
 /AC SHOULD BE ZERO  
 /AUTO INDEX ERROR

1411 7200  
 1412 1020  
 1413 3012  
 1414 0412  
 1415 1012  
 1416 1020  
 1417 7040  
 1420 7440  
 1421 7402

CLA  
 TAD K7777  
 DCA 12  
 AND I 12  
 TAD 12  
 TAD K7777  
 CMA  
 SEA  
 HLT

/AUTO INDEX TEST 42  
 /CONSTANT TO BE INDEXED  
 /DO AUTO INDEX  
 /AC SHOULD EQUAL 7777  
 /AC SHOULD BE ZERO  
 /AUTO INDEX ERROR

1422 72E0  
 1423 1036  
 1424 3013  
 1425 0413  
 1426 1013  
 1427 1035  
 1430 7040  
 1431 7440  
 1432 74E2

CLA  
 TAD K0  
 DCA 13  
 AND I 13  
 TAD 13  
 TAD K7776  
 CMA  
 SEA  
 HLT

/AUTO INDEX TEST 43  
 /CONSTANT TO BE INDEXED  
 /DO AUTO INDEX  
 /AC SHOULD EQUAL 7777  
 /AC SHOULD BE ZERO  
 /AUTO INDEX ERROR

/AUTO INDEX TEST 44

1433 7200 CLA  
 1434 1035 TAD K7776 /CONSTANT TO BE INDEXED  
 1435 3013 DCA 13 /DO AUTO INDEX  
 1436 0413 AND I 13  
 1437 1013 TAD 13 /AC SHOULD EQUAL 7777  
 1440 1036 TAD K0  
 1441 7040 CMA /AC SHOULD BE ZERO  
 1442 7440 SEA /AUTO INDEX ERROR  
 1443 7402 HLT

/AUTO INDEX TEST 45

1444 7200 CLA /CONSTANT TO BE INDEXED  
 1445 1034 TAD K7775 /DO AUTO INDEX  
 1446 3013 DCA 13 /AC SHOULD EQUAL 7777  
 1447 3413 DCA I 13 /AUTO INDEX ERROR  
 1450 1013 TAD 13  
 1451 1051 TAD K0001  
 1452 7040 CMA  
 1453 7440 SEA  
 1454 7402 HLT

/AUTO INDEX TEST 46

1455 7200 CLA /CONSTANT TO BE INDEXED  
 1456 1033 TAD K7773 /DO AUTO INDEX  
 1457 3013 DCA 13 /AC SHOULD BE ZERO  
 1460 1413 TAD I 13 /AUTO INDEX ERROR  
 1461 7200 CLA  
 1462 1013 TAD 13  
 1463 1047 TAD K0003  
 1464 7040 CMA  
 1465 7440 SEA  
 1466 7402 HLT

/AUTO INDEX TEST 47

1467 7200 CLA /CONSTANT TO BE INDEXED  
 1470 1032 TAD K7767 /DO AUTO INDEX  
 1471 3013 DCA 13 /AC SHOULD EQUAL 7777  
 1472 0413 AND I 13  
 1473 1013 TAD 13  
 1474 1046 TAD K0007  
 1475 7040 CMA  
 1476 7440 SEA  
 1477 7402 HLT

/AUTO INDEX TEST 48

1500 7200 CLA /CONSTANT TO BE INDEXED  
 1501 1031 TAD K7797 /DO AUTO INDEX  
 1502 3013 DCA 13 /AC SHOULD BE ZERO  
 1503 0413 AND I 13 /AUTO INDEX ERROR  
 1504 1013 TAD 13  
 1505 1045 TAD K0017  
 1506 7040 CMA  
 1507 7440 SEA  
 1510 7402 HLT



/AUTO INDEX TEST 49  
 1511 7200  
 1512 1027  
 1513 3013  
 1514 0413  
 1515 1013  
 1516 1044  
 1517 7040  
 1520 7440  
 1521 7402

CLA  
 TAD K7737  
 DCA 13  
 AND I 13  
 TAD 13  
 TAD K0037  
 CMA  
 SEA  
 HLT

/CONSTANT TO BE INDEXED  
 /DO AUTO INDEX  
 /AC SHOULD EQUAL 7777  
 /AC SHOULD BE ZERO  
 /AUTO INDEX ERROR

/AUTO INDEX TEST 50  
 1522 7200  
 1523 1026  
 1524 3013  
 1525 0413  
 1526 1013  
 1527 1043  
 1530 7040  
 1531 7440  
 1532 7402

CLA  
 TAD K7677  
 DCA 13  
 AND I 13  
 TAD 13  
 TAD K0077  
 CMA  
 SEA  
 HLT

/CONSTANT TO BE INDEXED  
 /DO AUTO INDEX  
 /AC SHOULD EQUAL 7777  
 /AC SHOULD BE ZERO  
 /AUTO INDEX ERROR

/AUTO INDEX TEST 51  
 1533 7200  
 1534 1025  
 1535 3013  
 1536 0413  
 1537 1013  
 1540 1042  
 1541 7040  
 1542 7440  
 1543 7402

CLA  
 TAD K7577  
 DCA 13  
 AND I 13  
 TAD 13  
 TAD K0177  
 CMA  
 SEA  
 HLT

/CONSTANT TO BE INDEXED  
 /DO AUTO INDEX  
 /AC SHOULD EQUAL 7777  
 /AC SHOULD BE ZERO  
 /AUTO INDEX ERROR

/AUTO INDEX TEST 52  
 1544 7200  
 1545 1024  
 1546 3013  
 1547 0413  
 1550 1013  
 1551 1041  
 1552 7040  
 1553 7440  
 1554 7402

CLA  
 TAD K7377  
 DCA 13  
 AND I 13  
 TAD 13  
 TAD K0377  
 CMA  
 SEA  
 HLT

/CONSTANT TO BE INDEXED  
 /DO AUTO INDEX  
 /AC SHOULD EQUAL 7777  
 /AC SHOULD BE ZERO  
 /AUTO INDEX ERROR

/AUTO INDEX TEST 53  
 1555 7200  
 1556 1023  
 1557 3013  
 1560 0413  
 1561 1013  
 1562 1040  
 1563 7040  
 1564 7440

CLA  
 TAD K6777  
 DCA 13  
 AND I 13  
 TAD 13  
 TAD K0777  
 CMA  
 SEA

/CONSTANT TO BE INDEXED  
 /DO AUTO INDEX  
 /AC SHOULD EQUAL 7777  
 /AC SHOULD BE ZERO

1565 7402 HLT /AUTO INDEX ERROR

/AUTO INDEX TEST 54

1566 7200  
 1567 1022  
 1570 3013  
 1571 2413  
 1572 7000  
 1573 1013  
 1574 1037  
 1575 7040  
 1576 7440  
 1577 7402

CLA  
 TAD K5777  
 DCA 13  
 ISZ I 13  
 NOP  
 TAO 13  
 TAD K1777  
 CHA  
 SEA  
 HLT

/CONSTANT TO BE INDEXED  
 /DO AUTO INDEX  
 /AC SHOULD EQUAL 7777  
 /AC SHOULD BE ZERO  
 /AUTO INDEX ERROR

\*1600

/AUTO INDEX TEST 55

1600 7200  
 1601 1021  
 1602 3013  
 1603 0413  
 1604 1013  
 1605 1021  
 1606 7040  
 1607 7440  
 1610 7402

CLA  
 TAD K3777  
 DCA 13  
 AND I 13  
 TAD 13  
 TAD K3777  
 CHA  
 SEA  
 HLT

/CONSTANT TO BE INDEXED  
 /DO AUTO INDEX  
 /AC SHOULD EQUAL 7777  
 /AC SHOULD BE ZERO  
 /AUTO INDEX ERROR

/AUTO INDEX TEST 56

1611 7200  
 1612 1020  
 1613 3013  
 1614 0413  
 1615 1013  
 1616 1020  
 1617 7040  
 1620 7440  
 1621 7402

CLA  
 TAD K7777  
 DCA 13  
 AND I 13  
 TAD 13  
 TAD K7777  
 CHA  
 SEA  
 HLT

/CONSTANT TO BE INDEXED  
 /DO AUTO INDEX  
 /AC SHOULD EQUAL 7777  
 /AC SHOULD BE ZERO  
 /AUTO INDEX ERROR

/AUTO INDEX TEST 57

1622 7200  
 1623 1036  
 1624 3014  
 1625 0414  
 1626 1014  
 1627 1035  
 1630 7040  
 1631 7440  
 1632 7402

CLA  
 TAD K0  
 DCA 14  
 AND I 14  
 TAD 14  
 TAD K7776  
 CHA  
 SEA  
 HLT

/CONSTANT TO BE INDEXED  
 /DO AUTO INDEX  
 /AC SHOULD EQUAL 7777  
 /AC SHOULD BE ZERO  
 /AUTO INDEX ERROR

/AUTO INDEX TEST 58

1633 7200  
 1634 1035  
 1635 3014

CLA  
 TAD K7776  
 DCA 14

/CONSTANT TO BE INDEXED

1636 0414 AND I 14 /DO AUTO INDEX  
1637 1014 TAD 14 /AC SHOULD EQUAL 7777  
1640 1036 TAD K0 /AC SHOULD BE ZERO  
1641 7040 CMA /AUTO INDEX ERROR  
1642 7440 SEA  
1643 7402 HLT

/AUTO INDEX TEST 59

1644 7200 CLA /CONSTANT TO BE INDEXED  
1645 1034 TAD K7775 /DO AUTO INDEX  
1646 3014 DCA 14 /AC SHOULD EQUAL 7777  
1647 3414 DCA I 14  
1650 1014 TAD 14  
1651 1051 TAD K0001  
1652 7040 CMA /AC SHOULD BE ZERO  
1653 7440 SEA /AUTO INDEX ERROR  
1654 7402 HLT

/AUTO INDEX TEST 60

1655 7200 CLA /CONSTANT TO BE INDEXED  
1656 1033 TAD K7773 /DO AUTO INDEX  
1657 3014 DCA 14 /AC SHOULD BE ZERO  
1660 1414 TAD I 14 /AUTO INDEX ERROR  
1661 7200 CLA /AC SHOULD EQUAL 7777  
1662 1014 TAD 14  
1663 1047 TAD K0003  
1664 7040 CMA  
1665 7440 SEA /AC SHOULD BE ZERO  
1666 7402 HLT /AUTO INDEX ERROR

/AUTO INDEX TEST 61

1667 7200 CLA /CONSTANT TO BE INDEXED  
1670 1032 TAD K7767 /DO AUTO INDEX  
1671 3014 DCA 14 /AC SHOULD EQUAL 7777  
1672 0414 AND I 14  
1673 1014 TAD 14  
1674 1046 TAD K0007  
1675 7040 CMA /AC SHOULD BE ZERO  
1676 7440 SEA /AUTO INDEX ERROR  
1677 7402 HLT

/AUTO INDEX TEST 62

1700 7200 CLA /CONSTANT TO BE INDEXED  
1701 1031 TAD K7757 /DO AUTO INDEX  
1702 3014 DCA 14 /AC SHOULD BE ZERO  
1703 0414 AND I 14 /AUTO INDEX ERROR  
1704 1014 TAD 14  
1705 1045 TAD K0017  
1706 7040 CMA /AC SHOULD BE ZERO  
1707 7440 SEA /AUTO INDEX ERROR  
1710 7402 HLT

1711 7200 /AUTO INDEX TEST 63  
CLA

1712 1027 TAD K7737 /CONSTANT TO BE INDEXED  
 1713 3014 DCA 14 /DO AUTO INDEX  
 1714 0414 AND I 14 /AC SHOULD EQUAL 7777  
 1715 1014 TAD 14  
 1716 1044 TAD K0037  
 1717 7040 CMA  
 1720 7440 SEA  
 1721 7402 HLT  
 /AC SHOULD BE ZERO  
 /AUTO INDEX ERROR

/AUTO INDEX TEST 64

1722 7200 CLA  
 1723 1026 TAD K7677 /CONSTANT TO BE INDEXED  
 1724 3014 DCA 14 /DO AUTO INDEX  
 1725 0414 AND I 14  
 1726 1014 TAD 14  
 1727 1043 TAD K0077 /AC SHOULD EQUAL 7777  
 1730 7040 CMA  
 1731 7440 SEA  
 1732 7402 HLT  
 /AC SHOULD BE ZERO  
 /AUTO INDEX ERROR

/AUTO INDEX TEST 69

1733 7200 CLA  
 1734 1025 TAD K7577 /CONSTANT TO BE INDEXED  
 1735 3014 DCA 14 /DO AUTO INDEX  
 1736 0414 AND I 14  
 1737 1014 TAD 14  
 1740 1042 TAD K0177 /AC SHOULD EQUAL 7777  
 1741 7040 CMA  
 1742 7440 SEA  
 1743 7402 HLT  
 /AC SHOULD BE ZERO  
 /AUTO INDEX ERROR

/AUTO INDEX TEST 66

1744 7200 CLA  
 1745 1024 TAD K7377 /CONSTANT TO BE INDEXED  
 1746 3014 DCA 14 /DO AUTO INDEX  
 1747 0414 AND I 14  
 1750 1014 TAD 14  
 1751 1041 TAD K0377 /AC SHOULD EQUAL 7777  
 1752 7040 CMA  
 1753 7440 SEA  
 1754 7402 HLT  
 /AC SHOULD BE ZERO  
 /AUTO INDEX ERROR

/AUTO INDEX TEST 67

1755 7200 CLA  
 1756 1023 TAD K6777 /CONSTANT TO BE INDEXED  
 1757 3014 DCA 14 /DO AUTO INDEX  
 1760 0414 AND I 14  
 1761 1014 TAD 14  
 1762 1040 TAD K0777 /AC SHOULD EQUAL 7777  
 1763 7040 CMA  
 1764 7440 SEA  
 1765 7402 HLT  
 /AC SHOULD BE ZERO  
 /AUTO INDEX ERROR

1766	7200	CLA		
1767	1022	TAD K5777	/CONSTANT TO BE INDEXED	
1770	5014	DCA 14		
1771	2414	ISE I 14	/DO AUTO INDEX	
1772	7000	NOP		
1773	1014	TAD 14		
1774	1057	TAD K1777	/AC SHOULD EQUAL 7777	
1775	7040	CHA		
1776	7440	SEA	/AC SHOULD BE ZERO	
1777	7402	HLT	/AUTO INDEX ERROR	

2000	7200	*2000		
2001	1021	/AUTO INDEX TEST 69		
2002	5014	CLA		
2003	0414	TAD K3777	/CONSTANT TO BE INDEXED	
2004	1014	DCA 14		
2005	1021	AND I 14	/DO AUTO INDEX	
2006	7040	TAD 14		
2007	7410	TAD K3777	/AC SHOULD EQUAL 7777	
2010	0000	CHA		
2011	7440	SKP		
2012	7402	0		
		SEA	/AC SHOULD BE ZERO	
		HLT	/AUTO INDEX ERROR	

2013	7200	/AUTO INDEX TEST 70		
2014	1020	CLA		
2015	5014	TAD K7777	/CONSTANT TO BE INDEXED	
2016	0414	DCA 14		
2017	1014	AND I 14	/DO AUTO INDEX	
2020	1020	TAD 14		
2021	7040	TAD K7777	/AC SHOULD EQUAL 7777	
2022	7440	CHA		
2023	7402	SEA	/AC SHOULD BE ZERO	
		HLT	/AUTO INDEX ERROR	

2024	7200	/AUTO INDEX TEST 71		
2025	1036	CLA		
2026	5015	TAD K0	/CONSTANT TO BE INDEXED	
2027	0415	DCA 15		
2030	1015	AND I 15	/DO AUTO INDEX	
2031	1035	TAD 15		
2032	7040	TAD K7776	/AC SHOULD EQUAL 7777	
2033	7440	CHA		
2034	7402	SEA	/AC SHOULD BE ZERO	
		HLT	/AUTO INDEX ERROR	

2035	7200	/AUTO INDEX TEST 72		
2036	1035	CLA		
2037	5015	TAD K7776	/CONSTANT TO BE INDEXED	
2040	0415	DCA 15		
2041	1015	AND I 15	/DO AUTO INDEX	
2042	1036	TAD 15		
		TAD K0	/AC SHOULD EQUAL 7777	

2043 7040 CMA /AC SHOULD BE ZERO  
2044 7440 SEA /AUTO INDEX ERROR  
2045 7402 HLT

/AUTO INDEX TEST 73

2046 7200 CLA /CONSTANT TO BE INDEXED  
2047 1034 TAD K7775 /DO AUTO INDEX  
2050 3015 DCA I 15 /AC SHOULD BE ZERO  
2051 3415 DCA I 15 /AUTO INDEX ERROR  
2052 1015 TAD I 15  
2053 1051 TAD K0001  
2054 7040 CMA  
2055 7440 SEA  
2056 7402 HLT

/AUTO INDEX TEST 74

2057 7200 CLA /CONSTANT TO BE INDEXED  
2060 1033 TAD K7773 /DO AUTO INDEX  
2061 3015 DCA I 15 /AC SHOULD BE ZERO  
2062 1415 TAD I 15 /AUTO INDEX ERROR  
2063 7200 CLA  
2064 1015 TAD I 15  
2065 1047 TAD K0003  
2066 7040 CMA  
2067 7440 SEA  
2070 7402 HLT

/AUTO INDEX TEST 75

2071 7200 CLA /CONSTANT TO BE INDEXED  
2072 1032 TAD K7767 /DO AUTO INDEX  
2073 3015 DCA I 15 /AC SHOULD BE ZERO  
2074 0415 AND I 15 /AUTO INDEX ERROR  
2075 1015 TAD I 15  
2076 1046 TAD K0007  
2077 7040 CMA  
2100 7440 SEA  
2101 7402 HLT

/AUTO INDEX TEST 76

2102 7200 CLA /CONSTANT TO BE INDEXED  
2103 1031 TAD K7757 /DO AUTO INDEX  
2104 3015 DCA I 15 /AC SHOULD BE ZERO  
2105 0415 AND I 15 /AUTO INDEX ERROR  
2106 1015 TAD I 15  
2107 1045 TAD K0017  
2110 7040 CMA  
2111 7440 SEA  
2112 7402 HLT

/AUTO INDEX TEST 77

2113 7200 CLA /CONSTANT TO BE INDEXED  
2114 1027 TAD K7737 /DO AUTO INDEX  
2115 3015 DCA I 15  
2116 0415 AND I 15

2117	1015	TAD 15	/AC SHOULD EQUAL 7777
2120	1044	TAD K0037	/AC SHOULD BE ZERO
2121	7040	CMA	/AUTO INDEX ERROR
2122	7440	SEA	
2123	7402	HLT	

/AUTO INDEX TEST 78

2124	7200	CLA	/CONSTANT TO BE INDEXED
2125	1026	TAD K7677	/DO AUTO INDEX
2126	3015	DCA 15	/AC SHOULD EQUAL 7777
2127	0415	AND I 15	
2130	1015	TAD 15	
2131	1043	TAD K0077	
2132	7040	CMA	
2133	7440	SEA	
2134	7402	HLT	

/AUTO INDEX TEST 79

2135	7200	CLA	/CONSTANT TO BE INDEXED
2136	1025	TAD K7577	/DO AUTO INDEX
2137	3015	DCA 15	/AC SHOULD EQUAL 7777
2140	0415	AND I 15	
2141	1015	TAD 15	
2142	1042	TAD K0177	
2143	7040	CMA	
2144	7440	SEA	
2145	7402	HLT	

/AUTO INDEX TEST 80

2146	7200	CLA	/CONSTANT TO BE INDEXED
2147	1024	TAD K7377	/DO AUTO INDEX
2150	3015	DCA 15	/AC SHOULD EQUAL 7777
2151	0415	AND I 15	
2152	1015	TAD 15	
2153	1041	TAD K0377	
2154	7040	CMA	
2155	7440	SEA	
2156	7402	HLT	

/AUTO INDEX TEST 01

2157	7200	CLA	/CONSTANT TO BE INDEXED
2160	1023	TAD K6777	/DO AUTO INDEX
2161	3015	DCA 15	/AC SHOULD BE ZERO
2162	0415	AND I 15	/AUTO INDEX ERROR
2163	1015	TAD 15	
2164	1040	TAD K0777	
2165	7040	CMA	
2166	7440	SEA	
2167	7402	HLT	
2170	7000	NOP	
2171	7000	NOP	
2172	5376	JMP .+4	
2173	7000	NOP	
2174	7000	NOP	

2175 7000  
2176 7000  
2177 7000

NOP  
NOP  
NOP

2200

\*2200  
/AUTO INDEX TEST 02

2200 7200  
2201 1022  
2202 3015  
2203 2415  
2204 7000  
2205 1015  
2206 1037  
2207 7040  
2210 7440  
2211 7402

CLA  
TAD K5777  
DCA 15  
ISE I 15  
NOP  
TAD 15  
TAD K1777  
CMA  
SEA  
HLT

/CONSTANT TO BE INDEXED  
/DO AUTO INDEX  
/AC SHOULD BE ZERO  
/AUTO INDEX ERROR  
/AC SHOULD EQUAL 7777

/AUTO INDEX TEST 03

2212 7200  
2213 1021  
2214 3015  
2215 0415  
2216 1015  
2217 1021  
2220 7040  
2221 7440  
2222 7402

CLA  
TAD K3777  
DCA 15  
AND I 15  
TAD 15  
TAD K3777  
CMA  
SEA  
HLT

/CONSTANT TO BE INDEXED  
/DO AUTO INDEX  
/AC SHOULD BE ZERO  
/AUTO INDEX ERROR

/AUTO INDEX TEST 04

2223 7200  
2224 1020  
2225 3015  
2226 0415  
2227 1015  
2230 1020  
2231 7040  
2232 7440  
2233 7402

CLA  
TAD K7777  
DCA 15  
AND I 15  
TAD 15  
TAD K7777  
CMA  
SEA  
HLT

/CONSTANT TO BE INDEXED  
/DO AUTO INDEX  
/AC SHOULD BE ZERO  
/AUTO INDEX ERROR

/AUTO INDEX TEST 05

2234 7200  
2235 1036  
2236 3016  
2237 0416  
2240 1016  
2241 1035  
2242 7040  
2243 7440  
2244 7402

CLA  
TAD K0  
DCA 16  
AND I 16  
TAD 16  
TAD K7776  
CMA  
SEA  
HLT

/CONSTANT TO BE INDEXED  
/DO AUTO INDEX  
/AC SHOULD BE ZERO  
/AUTO INDEX ERROR  
/AC SHOULD EQUAL 7777

/AUTO INDEX TEST 06

2245 7200  
2246 1035

CLA  
TAD K7776

/CONSTANT TO BE INDEXED



2247 3016 DCA 16 /DO AUTO INDEX  
2250 0416 AND I 16 /AC SHOULD EQUAL 7777  
2251 1016 TAD 16 /AC SHOULD BE ZERO  
2252 1036 TAD K0 /AUTO INDEX ERROR  
2253 7040 CMA  
2254 7440 SEA  
2255 7402 HLT

/AUTO INDEX TEST 87

2256 7200 CLA /CONSTANT TO BE INDEXED  
2257 1034 TAD K7775 /DO AUTO INDEX  
2260 3016 DCA 16 /AC SHOULD EQUAL 7777  
2261 3416 DCA I 16 /AC SHOULD BE ZERO  
2262 1016 TAD 16 /AUTO INDEX ERROR  
2263 1051 TAD K0001  
2264 7040 CMA  
2265 7440 SEA  
2266 7402 HLT

/AUTO INDEX TEST 88

2267 7200 CLA /CONSTANT TO BE INDEXED  
2270 1033 TAD K7773 /DO AUTO INDEX  
2271 3016 DCA 16 /AC SHOULD BE ZERO  
2272 1416 TAD I 16 /AUTO INDEX ERROR  
2273 7200 CLA /CONSTANT TO BE INDEXED  
2274 1016 TAD 16 /DO AUTO INDEX  
2275 1047 TAD K0003 /AC SHOULD BE ZERO  
2276 7040 CMA  
2277 7440 SEA  
2300 7402 HLT

/AUTO INDEX TEST 89

2301 7200 CLA /CONSTANT TO BE INDEXED  
2302 1032 TAD K7767 /DO AUTO INDEX  
2303 3016 DCA 16 /AC SHOULD BE ZERO  
2304 0416 AND I 16 /AUTO INDEX ERROR  
2305 1016 AND I 16 /CONSTANT TO BE INDEXED  
2306 1046 TAD 16 /DO AUTO INDEX  
2307 7040 TAD K0007 /AC SHOULD BE ZERO  
2310 7440 CMA  
2311 7402 HLT

/AUTO INDEX TEST 90

2312 7200 CLA /CONSTANT TO BE INDEXED  
2313 1031 TAD K7757 /DO AUTO INDEX  
2314 3016 DCA 16 /AC SHOULD BE ZERO  
2315 0416 AND I 16 /AUTO INDEX ERROR  
2316 1016 AND I 16 /CONSTANT TO BE INDEXED  
2317 1045 TAD 16 /DO AUTO INDEX  
2320 7040 TAD K0047 /AC SHOULD BE ZERO  
2321 7440 CMA  
2322 7402 SEA  
HLT

/AUTO INDEX TEST 91

/AC SHOULD BE ZERO  
/AUTO INDEX ERROR

2323 7200  
 2324 1027  
 2325 3016  
 2326 0416  
 2327 1016  
 2330 1044  
 2331 7040  
 2332 7440  
 2333 7402

CLA  
 TAD K7737  
 DCA 16  
 AND I 16  
 TAD 16  
 TAD K0037  
 CMA  
 SEA  
 HLT

/CONSTANT TO BE INDEXED  
 /DO AUTO INDEX  
 /AC SHOULD BE ZERO  
 /AUTO INDEX ERROR

/AUTO INDEX TEST 92

2334 7200  
 2335 1026  
 2336 3016  
 2337 0416  
 2340 1016  
 2341 1045  
 2342 7040  
 2343 7440  
 2344 7402

CLA  
 TAD K7677  
 DCA 16  
 AND I 16  
 TAD 16  
 TAD K0077  
 CMA  
 SEA  
 HLT

/CONSTANT TO BE INDEXED  
 /DO AUTO INDEX  
 /AC SHOULD BE ZERO  
 /AUTO INDEX ERROR

/AUTO INDEX TEST 93

2345 7200  
 2346 1025  
 2347 3016  
 2350 0416  
 2351 1016  
 2352 1042  
 2353 7040  
 2354 7440  
 2355 7402

CLA  
 TAD K7577  
 DCA 16  
 AND I 16  
 TAD 16  
 TAD K0177  
 CMA  
 SEA  
 HLT

/CONSTANT TO BE INDEXED  
 /DO AUTO INDEX  
 /AC SHOULD BE ZERO  
 /AUTO INDEX ERROR

/AUTO INDEX TEST 94

2356 7200  
 2357 1024  
 2360 3016  
 2361 0416  
 2362 1016  
 2363 1041  
 2364 7040  
 2365 7440  
 2366 7402

CLA  
 TAD K7377  
 DCA 16  
 AND I 16  
 TAD 16  
 TAD K0377  
 CMA  
 SEA  
 HLT

/CONSTANT TO BE INDEXED  
 /DO AUTO INDEX  
 /AC SHOULD BE ZERO  
 /AUTO INDEX ERROR

/AUTO INDEX TEST 95

2367 7200  
 2370 1023  
 2371 3016  
 2372 0416  
 2373 1016  
 2374 1040  
 2375 7040  
 2376 7440  
 2377 7402

CLA  
 TAD K6777  
 DCA 16  
 AND I 16  
 TAD 16  
 TAD K0777  
 CMA  
 SEA  
 HLT

/CONSTANT TO BE INDEXED  
 /DO AUTO INDEX  
 /AC SHOULD BE ZERO  
 /AUTO INDEX ERROR

PAUSE

/TEST 2 - TAPE 3

2400 \*2400

/AUTO INDEX TEST 96

2400 7200  
 2401 1022  
 2402 3016  
 2403 2416  
 2404 7000  
 2405 1016  
 2406 1037  
 2407 7040  
 2410 7440  
 2411 7402

CLA  
 TAD K5777  
 DCA 16  
 ISE I 16  
 NOP  
 TAD 16  
 TAD K1777  
 CMA  
 SEA  
 HLT

/CONSTANT TO BE INDEXED  
 /DO AUTO INDEX  
 /AC SHOULD BE ZERO  
 /AUTO INDEX ERROR  
 /AC SHOULD EQUAL 7777

/AUTO INDEX TEST 97

2412 7200  
 2413 1021  
 2414 3016  
 2415 0416  
 2416 1016  
 2417 1021  
 2420 7040  
 2421 7440  
 2422 7402

CLA  
 TAD K3777  
 DCA 16  
 AND I 16  
 TAD 16  
 TAD K3777  
 CMA  
 SEA  
 HLT

/CONSTANT TO BE INDEXED  
 /DO AUTO INDEX  
 /AC SHOULD BE ZERO  
 /AUTO INDEX ERROR

/AUTO INDEX TEST 98

2423 7200  
 2424 1020  
 2425 3016  
 2426 0416  
 2427 1016  
 2430 1020  
 2431 7040  
 2432 7440  
 2433 7402

CLA  
 TAD K7777  
 DCA 16  
 AND I 16  
 TAD 16  
 TAD K7777  
 CMA  
 SEA  
 HLT

/CONSTANT TO BE INDEXED  
 /DO AUTO INDEX  
 /AC SHOULD EQUAL 7777  
 /AC SHOULD BE ZERO  
 /AUTO INDEX ERROR

/AUTO INDEX TEST 99

2434 7200  
 2435 1036  
 2436 3017  
 2437 0417  
 2440 1017  
 2441 1035  
 2442 7040  
 2443 7440  
 2444 7402

CLA  
 TAD K0  
 DCA 17  
 AND I 17  
 TAD 17  
 TAD K7776  
 CMA  
 SEA  
 HLT

/CONSTANT TO BE INDEXED  
 /DO AUTO INDEX  
 /AC SHOULD EQUAL 7777  
 /AC SHOULD BE ZERO  
 /AUTO INDEX ERROR

2445 7200  
 2446 1035  
 2447 3017  
 2450 0417  
 2451 1017  
 2452 1036  
 2453 7040  
 2454 7440  
 2455 7402

/AUTO INDEX TEST 100

CLA  
 TAD K7776  
 DCA 17  
 AND I 17  
 TAD 17  
 TAD K0  
 CMA  
 SEA  
 HLT

/CONSTANT TO BE INDEXED  
 /DO AUTO INDEX  
 /AC SHOULD EQUAL 7777  
 /AC SHOULD BE ZERO  
 /AUTO INDEX ERROR

2456 7200  
 2457 1034  
 2460 3017  
 2461 3417  
 2462 1017  
 2463 1051  
 2464 7040  
 2465 7440  
 2466 7402

/AUTO INDEX TEST 101

CLA  
 TAD K7775  
 DCA 17  
 DCA I 17  
 TAD 17  
 TAD K0001  
 CMA  
 SEA  
 HLT

/CONSTANT TO BE INDEXED  
 /DO AUTO INDEX  
 /AC SHOULD EQUAL 7777  
 /AC SHOULD BE ZERO  
 /AUTO INDEX ERROR

2467 7200  
 2470 1033  
 2471 3017  
 2472 1417  
 2473 7200  
 2474 1017  
 2475 1047  
 2476 7040  
 2477 7440  
 2500 7402

/AUTO INDEX TEST 102

CLA  
 TAD K7773  
 DCA 17  
 TAD I 17  
 CLA  
 TAD 17  
 TAD K0003  
 CMA  
 SEA  
 HLT

/CONSTANT TO BE INDEXED  
 /DO AUTO INDEX  
 /AC SHOULD EQUAL 7777  
 /AC SHOULD BE ZERO  
 /AUTO INDEX ERROR

2501 7200  
 2502 1032  
 2503 3017  
 2504 0417  
 2505 1017  
 2506 1046  
 2507 7040  
 2510 7440  
 2511 7402

/AUTO INDEX TEST 103

CLA  
 TAD K7767  
 DCA 17  
 AND I 17  
 TAD 17  
 TAD K0007  
 CMA  
 SEA  
 HLT

/CONSTANT TO BE INDEXED  
 /DO AUTO INDEX  
 /AC SHOULD EQUAL 7777  
 /AC SHOULD BE ZERO  
 /AUTO INDEX ERROR

2512 7200  
 2513 1031  
 2514 3017  
 2515 0417  
 2516 1017  
 2517 1045  
 2520 7040  
 2521 7440

/AUTO INDEX TEST 104

CLA  
 TAD K7757  
 DCA 17  
 AND I 17  
 TAD 17  
 TAD K0017  
 CMA  
 SEA

/CONSTANT TO BE INDEXED  
 /DO AUTO INDEX  
 /AC SHOULD EQUAL 7777  
 /AC SHOULD BE ZERO

2522 7402 HLT /AUTO INDEX ERROR

/AUTO INDEX TEST 105

2523 7200 CLA /CONSTANT TO BE INDEXED  
2524 1027 TAD K7737 /DO AUTO INDEX  
2525 3017 DCA 17 /AC SHOULD BE ZERO  
2526 0417 AND I 17 /AUTO INDEX ERROR  
2527 1017 TAD 17  
2530 1044 TAD K0037  
2531 7040 CMA  
2532 7440 SEA  
2533 7402 HLT

/AUTO INDEX TEST 106

2534 7200 CLA /CONSTANT TO BE INDEXED  
2535 1026 TAD K7677 /DO AUTO INDEX  
2536 3017 DCA 17 /AC SHOULD BE ZERO  
2537 0417 AND I 17 /AUTO INDEX ERROR  
2540 1017 TAD 17  
2541 1043 TAD K0077  
2542 7040 CMA  
2543 7440 SEA  
2544 7402 HLT

/AUTO INDEX TEST 107

2545 7200 CLA /CONSTANT TO BE INDEXED  
2546 1025 TAD K7577 /DO AUTO INDEX  
2547 3017 DCA 17 /AC SHOULD BE ZERO  
2550 0417 AND I 17 /AUTO INDEX ERROR  
2551 1017 TAD 17  
2552 1042 TAD K0177  
2553 7040 CMA  
2554 7440 SEA  
2555 7402 HLT

/AUTO INDEX TEST 108

2556 7200 CLA /CONSTANT TO BE INDEXED  
2557 1024 TAD K7377 /DO AUTO INDEX  
2560 3017 DCA 17 /AC SHOULD BE ZERO  
2561 0417 AND I 17 /AUTO INDEX ERROR  
2562 1017 TAD 17  
2563 1041 TAD K0377  
2564 7040 CMA  
2565 7440 SEA  
2566 7402 HLT

/AUTO INDEX TEST 109

2567 7200 CLA /CONSTANT TO BE INDEXED  
2570 1023 TAD K6777 /DO AUTO INDEX  
2571 3017 DCA 17 /AC SHOULD BE ZERO  
2572 0417 AND I 17 /AUTO INDEX ERROR  
2573 1017 TAD 17  
2574 1040 TAD K0777

2575 7040 CMA  
2576 7440 SEA  
2577 7402 HLT

/AC SHOULD BE ZERO  
/AUTO INDEX ERROR

2600 \*2600  
/AUTO INDEX TEST 110

2600 7200 CLA  
2601 1022 TAD K5777  
2602 3017 DCA 17  
2603 2417 ISE I 17  
2604 7000 NOP  
2605 1017 TAD 17  
2606 1037 TAD K1777  
2607 7040 CMA  
2610 7440 SEA  
2611 7402 HLT

/CONSTANT TO BE INDEXED  
/DO AUTO INDEX  
/AC SHOULD EQUAL 7777  
/AC SHOULD BE ZERO  
/AUTO INDEX ERROR

/AUTO INDEX TEST 111

2612 7200 CLA  
2613 1021 TAD K5777  
2614 3017 DCA 17  
2615 0417 AND I 17  
2616 1017 TAD 17  
2617 1021 TAD K5777  
2620 7040 CMA  
2621 7440 SEA  
2622 7402 HLT

/CONSTANT TO BE INDEXED  
/DO AUTO INDEX  
/AC SHOULD EQUAL 7777  
/AC SHOULD BE ZERO  
/AUTO INDEX ERROR

/AUTO INDEX TEST 112

2623 7200 CLA  
2624 1020 TAD K7777  
2625 3017 DCA 17  
2626 0417 AND I 17  
2627 1017 TAD 17  
2630 1020 TAD K7777  
2631 7040 CMA  
2632 7440 SEA  
2633 7402 HLT

/CONSTANT TO BE INDEXED  
/DO AUTO INDEX  
/AC SHOULD EQUAL 7777  
/AC SHOULD BE ZERO  
/AUTO INDEX ERROR

/AUTO INDEX TEST 113

2634 5236 JMP .+2  
2635 7402 HLT  
2636 7410 SKP  
2637 2644 2644  
2640 1237 TAD .-1  
2641 5010 DCA 10  
2642 5410 JMP I 10  
2643 7402 HLT  
2644 7402 HLT

/JMP FAILED  
/JMP WORKED (A LITTLE)  
/TEST INSTRUCTION  
/JMP INDIRECT FAILED  
/LOCATION 2610. NO INDEX  
/IN DEFER STATE.

/AUTO INDEX TEST 114

2645 4247  
 2646 7402  
 2647 7402  
 2650 1247  
 2651 7410  
 2652 2646  
 2653 7041  
 2654 1252  
 2655 7440  
 2656 7402

/JMS FAILED  
 /JMS FAILED

/WRONG ADDRESS STORED  
 /DURING JMS  
 /JMS WORKS (I GUESS)

/TEST INSTRUCTION  
 /JMS FAILED  
 /JMS FAILED

2657 7410  
 2660 2664  
 2661 1260  
 2662 3010  
 2663 4410  
 2664 7402  
 2665 7402  
 2666 1265  
 2667 7410  
 2670 2664  
 2671 7041  
 2672 1270  
 2673 7440  
 2674 7402  
 2675 3676  
 2676 4200

/INTERRUPT TEST 1

/WRONG ADDRESS STORED DURING JMS  
 /GO TO PROCESSOR IOT TESTS

INTEST, JMS I .+1

2677 4700  
 2700 4011  
 2701 6040  
 2702 6041  
 2703 7402  
 2704 7200  
 2705 1313  
 2706 3002  
 2707 6001  
 2710 7000  
 2711 7402  
 2712 2711  
 2713 2714  
 2714 7440  
 2715 7402

/SET PRINTER FLAG

/SPF OR TSF FAILED

/FLAG IS ON

/GO TO LOC 0000  
 /NO INTERRUPT

/RETURN FROM LOC 1  
 /AC SHOULD BE 0  
 /CONFIDENCE CHECK

OUT1,  
 BACK1,

2716 1000  
 2717 7041  
 2720 1312  
 2721 7640  
 2722 7402

/INTERRUPT ERROR  
 /WRONG ADDRESS STORED

/INTERRUPT TEST 2

2723 6040  
 2724 6041  
 2725 7402  
 2726 7200  
 2727 1335  
 2730 3002  
 2731 6001  
 2732 1020  
 2733 7402  
 2734 2733  
 2735 2736  
 2736 7040  
 2737 7440  
 2740 7402

OUTS,  
BACKS,

SPF  
 TSF  
 HLT  
 CLA  
 TAD BACKS  
 DCA 2  
 ION  
 TAD K7777  
 HLT  
 .-1  
 .+1  
 CMA  
 SEA  
 HLT

/SET PRINTER FLAG

/SPF FAILED TO SET PRINTER FLAG  
/FLAG IS ON

/NO INTERRUPT

/RETURN FROM LOC1

/CONFIDENCE CHECK  
/AC SHOULD BE 0

2741 1000  
 2742 7041  
 2743 1334  
 2744 7640  
 2745 7402

TAD 0  
 CIA  
 TAD OUTS  
 SEA CLA  
 HLT

/INTERRUPT ERROR  
/WRONG ADDRESS STORED

/INTERRUPT TEST 3

2746 6040  
 2747 6041  
 2750 7402  
 2751 7200  
 2752 1361  
 2753 3002  
 2754 1020  
 2755 6001  
 2756 0020  
 2757 7402  
 2760 2757  
 2761 2762  
 2762 7040  
 2763 7440  
 2764 7402

OUT2,  
BACK2,

SPF  
 TSF  
 HLT  
 CLA  
 TAD BACK2  
 DCA 2  
 TAD K7777  
 ION  
 AND K7777  
 HLT  
 .-1  
 .+1  
 CMA  
 SEA  
 HLT

/SET PRINTER FLAG

/SPF FAILED TO SET PRINTER FLAG  
/FLAG IS ON

/NO INTERRUPT

/RETURN FROM LOC1

/CONFIDENCE CHECK  
/AC SHOULD BE 0

2765 1000  
 2766 7041  
 2767 1360  
 2770 7640  
 2771 7402

TAD 0  
 CIA  
 TAD OUT2  
 SEA CLA  
 HLT

/INTERRUPT ERROR  
/WRONG ADDRESS STORED

2772 5773  
 2773 3000

JMP I .+1  
 3000

3000

\*3000

/INTERRUPT TEST 4

/SET PRINTER FLAG

3000 6040  
 3001 6041

SPF  
 TSF



3002 7402 HLT  
 3003 7200 CLA  
 3004 1213 TAD BACK4  
 3005 3002 DCA 2  
 3006 1020 TAD K7777  
 3007 6001 ION  
 3010 3003 DCA 3  
 3011 7402 HLT

/SPF FAILED TO SET PRINTER FLAG  
 /FLAG IS ON

OUT4,  
 BACK4,

3012 3011 .-1  
 3013 3014 .+1  
 3014 7440 SEA  
 3015 7402 HLT

/NO INTERRUPT  
 /RETURN FROM LOG1  
 /CONFIDENCE CHECK  
 /AC SHOULD BE ZERO

3016 1003 TAD 3  
 3017 7040 CMA  
 3020 7440 SEA  
 3021 7402 HLT

/DCA PRIOR TO INTERRUPT  
 /FAILED

3022 3003 DCA 3  
 3023 1000 TAD 0  
 3024 7041 CIA  
 3025 1212 TAD OUT4  
 3026 7640 SEA CLA  
 3027 7402 HLT

/INTERRUPT ERROR  
 /WRONG ADDRESS STORED

/INTERRUPT TEST 5

3030 6040 SPF  
 3031 6041 TSF  
 3032 7402 HLT  
 3033 7200 CLA  
 3034 1244 TAD BACK5  
 3035 3002 DCA 2  
 3036 1035 TAD K7776

/SET PRINTER FLAG  
 /SPF FAILED TO SET PRINTER FLAG  
 /FLAG IS ON

OUT5,  
 BACK5,

3037 5003 DCA 3  
 3040 6001 ION  
 3041 2003 ISZ 3  
 3042 7402 HLT  
 3043 3042 .-1  
 3044 3045 .+1  
 3045 7440 SEA  
 3046 7402 HLT  
 3047 1003 TAD 3  
 3050 7040 CMA  
 3051 7440 SEA  
 3052 7402 HLT

/NO INTERRUPT  
 /RETURN FROM LOG1  
 /CONFIDENCE CHECK  
 /AC SHOULD BE ZERO

/ISZ PRIOR TO  
 /INTERRUPT FAILED

3053 5003 DCA 3  
 3054 1000 TAD 0  
 3055 7041 CIA  
 3056 1243 TAD OUT5  
 3057 7640 SEA CLA  
 3060 7402 HLT

/INTERRUPT ERROR

/WRONG ADDRESS STORED

/INTERRUPT TEST 6

3061 6040  
 3062 6041  
 3063 74E2  
 3064 7200  
 3065 1276  
 3066 3002  
 3067 1020  
 3070 3003  
 3071 6001  
 3072 2003  
 3073 7402  
 3074 7402  
 3075 3074  
 3076 3077  
 3077 7440  
 3100 7402

SPF  
 TSF  
 HLT  
 CLA  
 TAD BACK6  
 DCA 2  
 TAD K7777  
 DCA 3  
 ION  
 ISE 3  
 HLT  
 HLT  
 .-1  
 .+1  
 SEA  
 HLT

/SET PRINTER FLAG

/SPF FAILED TO SET PRINTER FLAG  
/FLAG IS ON

/NO INTERRUPT

/RETURN FROM LOC 1  
/CONFIDENCE CHECK  
/AC SHOULD BE ZERO

/ISE PRIOR TO  
/INTERRUPT FAILED

3101 1003  
 3102 7440  
 3103 7402  
 3104 3003  
 3105 1000  
 3106 7041  
 3107 1275  
 3110 7640  
 3111 7402

TAD 3  
 SEA  
 HLT  
 DCA 3  
 TAD 0  
 CIA  
 TAD OUT6  
 SEA  
 CLA  
 HLT

/INTERRUPT ERROR  
/WRONG ADDRESS STORED

/INTERRUPT TEST 7

3112 6040  
 3113 6041  
 3114 7402  
 3115 7200  
 3116 1324  
 3117 3002  
 3120 6001  
 3121 5321  
 3122 7402  
 3123 3121  
 3124 3125  
 3125 7440  
 3126 7402

SPF  
 TSF  
 HLT  
 CLA  
 TAD BACK7  
 DCA 2  
 ION  
 JMP .  
 HLT  
 HLT  
 .-2  
 .+1  
 SEA  
 HLT

OUT7,  
 BACK7,

/SET PRINTER FLAG

/SPF FAILED TO SET PRINTER FLAG  
/FLAG IS ON

/NO INTERRUPT

/RETURN FROM LOC 1  
/CONFIDENCE CHECK  
/AC SHOULD BE 0

3127 1000  
 3130 7041  
 3131 1323  
 3132 7640  
 3133 7402

TAD 0  
 CIA  
 TAD OUT7  
 SEA  
 CLA  
 HLT

/INTERRUPT ERROR  
/WRONG ADDRESS STORED

/INTERRUPT TEST 8

3134 6040  
 3135 6041  
 3136 7402  
 3137 7200  
 3140 1346  
 3141 3002  
 3142 6001  
 3143 4003  
 3144 7402  
 3145 3144  
 3146 3147  
 3147 7440  
 3150 7402

/SET PRINTER FLAG  
 /SPF FAILED TO SET PRINTER FLAG  
 /FLAG IS ON

OUT8, BACK9, /NO INTERRUPT

SPF  
 TSF  
 HLT  
 CLA  
 TAD BACK8  
 DCA 2  
 ION  
 JMS 3  
 HLT  
 .-1  
 .+1  
 SEA  
 HLT

/RETURN FROM LOC 1  
 /CONFIDENCE CHECK  
 /AC SHOULD BE ZERO

TAD 3 CIA TAD OUT8 SEA HLT

3151 1003  
 3152 7041  
 3153 1345  
 3154 7440  
 3155 7402

/JMS ERROR PRIOR  
 /TO INTERRUPT WRONG  
 /ADDRESS STORED

3156 1000  
 3157 7041  
 3160 1065  
 3161 7640  
 3162 7402

/INTERRUPT ERROR  
 /WRONG ADDRESS STORED

JMP 1 .+1  
 3200

\*3200 /INTERRUPT TEST 9

3200 0040  
 3201 6041  
 3202 7402  
 3203 7200  
 3204 1213  
 3205 3002  
 3206 1020  
 3207 6001  
 3210 7200  
 3211 7402  
 3212 3211  
 3213 3214  
 3214 7440  
 3215 7402

/SET PRINTER FLAG  
 /SPF FAILED TO SET PRINTER FLAG  
 /FLAG IS ON

OUT9, BACK9, /NO INTERRUPT

SPF  
 TSF  
 HLT  
 CLA  
 TAD BACK9  
 DCA 2  
 TAD K7777  
 ION  
 CLA  
 HLT  
 .-1  
 .+1  
 SEA  
 HLT

/NO INTERRUPT  
 /RETURN FROM LOC 1  
 /CLA PRIOR TO INTERRUPT  
 /FAILED

3216 1000  
 3217 7041  
 3220 1212  
 3221 7640

3222 7402 HLT /INTERRUPT FAILED  
/WRONG ADDRESS STORED

/INTERRUPT TEST 10  
/SET PRINTER FLAG

3223 6040  
3224 6041 TSF  
3225 7402 HLT  
3226 7200 CLA  
3227 1236 TAD BACK10  
3230 3002 DCA 2  
3231 6001 ION  
3232 6041 TSF  
3233 7402 HLT  
3234 7402 HLT  
/NO INTERRUPT

OUT10, .-1  
BACK10, .+1  
SEA  
HLT  
TAD 0  
CIA  
TAD OUT10  
SEA CLA  
HLT  
/RETURN FROM LOC 1  
/CONFIDENCE CHECK  
/AC SHOULD BE ZERO

3241 1000 TAD 0  
3242 7041 CIA  
3243 1235 TAD OUT10  
3244 7640 SEA CLA  
3245 7402 HLT  
/INTERRUPT ERROR  
/WRONG ADDRESS STORED

/INTERRUPT TEST 11

/SET PRINTER FLAG  
/SPF FAILED TO SET PRINTER FLAG  
/FLAG IS ON

3246 6040 SPF  
3247 6041 TSF  
3250 7402 HLT  
3251 7200 CLA  
3252 1311 TAD BACK11  
3253 3002 DCA 2  
3254 6001 ION  
3255 6002 ION  
3256 6001 ION  
3257 6002 ION  
3260 6001 ION  
3261 6002 ION  
3262 6001 ION  
3263 6002 ION  
3264 6001 ION  
3265 6002 ION  
3266 6001 ION  
3267 6002 ION  
3270 6001 ION  
3271 6002 ION  
3272 6001 ION  
3273 6002 ION  
3274 6001 ION  
3275 6002 ION  
3276 6001 ION  
3277 6002 ION

3300 6001 ION  
 3301 6002 IOF  
 3302 6001 ION  
 3303 6002 IOF  
 3304 6001 ION  
 3305 6002 IOF

3306 6041 TSF  
 3307 7402 HLT  
 3310 7410 SKP  
 3311 3313 SKP  
 3312 7410 HLT  
 3313 7402 HLT

/WHAT HAPPENED TO MY FLAG

/INTERRUPT OCCURRED DURING  
/ION-IOF SEQUENCE  
/SEE LOCATION 0000

/INTERRUPT TEST 12

/CLEAR FLAG

3314 6042 TCF  
 3315 7200 CLA  
 3316 1326 TAD BACK12  
 3317 3002 DCA 2  
 3320 6001 ION  
 3321 7000 NOP  
 3322 7000 NOP  
 3323 7000 NOP  
 3324 7000 NOP  
 3325 7410 SKP  
 3326 3330 SKP  
 3327 7410 HLT  
 3330 7402 HLT  
 3331 6002 IOF

/INTERRUPT WITH NO  
/FLAG.

/INTERRUPT TEST 13

/SPF FAILED TO SET PRINTER FLAG.

3332 6040 SPF  
 3333 6041 TSF  
 3334 7402 HLT  
 3335 7200 CLA  
 3336 1345 TAD BAC13  
 3337 3002 DCA 2  
 3340 6001 ION  
 3341 6001 SKP  
 3342 7410 HLT  
 3343 7402 HLT  
 3344 3343 OUT13,  
 3345 3346 BAC13,  
 3346 7440 SEA  
 3347 7402 HLT  
 3350 1000 TAD 0  
 3351 7041 CIA  
 3352 1344 TAD OUT13  
 3353 7640 SEA  
 3354 7402 HLT

/NO INTERRUPT

/INTERRUPT ERROR  
/WRONG ADDRESS STORED

/INTERRUPT TEST 14

```

3355 6040
3356 6041
3357 7402
3360 7200
3361 1370
3362 3002
3363 6001
3364 5765
3365 3366
3366 7402
3367 3366
3370 3371
3371 7440
3372 7402
3373 1000
3374 7041
3375 1367
3376 7640
3377 7402

SPF
TSF
HLT
CLA
TAD BAC14
DCA 2
ION
JMP I .+1
.HLT
.HLT
.BAC14, .+1
.SZA
.HLT
TAD 0
CIA
TAD OUTT14
SZA CLA
HLT

/SPF FAILED TO SET PRINTER FLAG

/NO INTERRUPT

/INTERRUPT ERROR
/WRONG ADDRESS STORED
    
```

/INTERRUPT TEST 15.

```

3400 6007
3401 1212
3402 3002
3403 6001
3404 7000
3405 6007
3406 6040
3407 6000
3410 8213
3411 7402
3412 3411
3413 6007
3414 5615
3415 3600

CAF
TAD BAC15
DCA 2
ION
NOP
CAF
SPF
SKON
JMP .+3
.HLT
.HLT
.BAC15, .+1
.CAF
JMP I .+1
IAIT1

/CLEAR THE WORLD
/GET RETURN INTERRUPT ADDRESS
/STORE IT IN ADDRESS 2
/INTERRUPT ON
/CLEAR THE WORLD
/SET PAINTER FLAG.
/CAF FAILED TO CLEAR ION
/CLEAR FOR EXIT.
    
```

3600 PAGE

/ILLEGAL AUTO INDEX TEST1

```

3600 7200
3601 5602
3602 4000
3603 4010
4000 4000
4001 0610
4002 5602
4002 3604
3604 3604
3604 1603
3605 7440

IAIT1,
CLA
JMP I .+1
K4010,
4010
*4000
ANDI,
AND I 4010
JMP I .+1
RETI
*K4010+1
TAD I K4010
SZA

/TEST INSTRUCTION
    
```

3606 7402 HLT /ERROR. AC SHOULD BE ZERO  
3607 7200 CLA /AND I 4010 ALTERED (4010)  
3610 3603 DCA I K4010

/ILLEGAL AUTO INDEX TEST 2

3611 7200 CLA  
3612 5613 JMP I .+1  
3613 2173 AND2  
3614 2010 K2010, 2010

/TEST INSTRUCTION

2173 2173 \*2173  
2174 0610 AND2,  
2175 5775 AND I 2010  
3615 3615 \*K2010+1  
3616 1614 RET2,  
3617 7402 TAD I K2010  
3620 5621 JMP I .+1  
3621 3622 AITSTS

/ERROR. AC SHOULD BE ZERO  
/AND I 2010 ALTERED (2010)

/ILLEGAL AUTO INDEX TEST 3

3622 7200 /ILLEGAL AUTO INDEX TEST 3  
3623 5624 AITSTS, CLA  
3624 1173 JMP I .+1  
3625 1010 AND3  
K1010, 1010

/TEST INSTRUCTION

1173 1173 \*1173  
1174 0610 AND I 1010  
1175 5775 JMP I .+1  
3626 3626 \*K1010+1  
3627 1625 RET3,  
3630 7402 TAD I K1010  
3631 7200 CLA  
3632 3625 DCA I K1010

/ERROR. AC SHOULD BE ZERO  
/AND I 1010 ALTERED (1010)

/ILLEGAL AUTO INDEX TEST 4

3633 7200 CLA  
3634 5635 JMP I .+1  
3635 0574 AND4  
3636 0410 K410, 410

0574 \*574

```

0574 0610 AND4, AND I 410 /TEST INSTRUCTION
0575 5776 JMP I .+1
0576 3637 RET4

```

```

3637 3637 *K410+1
3640 1636 RET4, TAD I K410 /ERROR. AC SHOULD BE ZERO
3641 7440 SEA /AND I 410 ALTERED (410)
3642 7422 HLT
3643 7200 CLA
3645 3636 DCA I K410

```

/ILLEGAL AUTO INDEX TEST 5

```

3644 7200 CLA
3645 5646 JMP I .+1
3646 0372 AND5
3647 0210 K210, 210
0371 *371
0371 5375 JMP .+4 /TEST INSTRUCTION
0372 0610 AND I 210
0373 9774 JMP I .+1
0374 3650 RET5

```

```

3650 3650 *K210+1
3647 1647 RET5, TAD I K210 /ERROR. AC SHOULD BE ZERO
3651 7440 SEA /AND I 210 ALTERED (210)
3652 7402 HLT
3653 7200 CLA
3654 3647 DCA I K210

```

/ILLEGAL AUTO INDEX TEST 6

```

3655 7200 CLA
3656 8657 JMP I .+1 /TEST INSTRUCTION
3657 0130 AND6
3660 0110 K110, 110
0130 *130
0130 0510 AND I 110 /TEST INSTRUCTION
0131 5532 JMP I .+1
0132 3661 RET6

```

```

3661 3661 *K110+1
3662 1660 RET6, TAD I K110 /ERROR. AC SHOULD BE ZERO
3663 7440 SEA /AND I 110 ALTERED (110)
3664 7402 HLT
3665 7200 CLA
3666 3110 DCA 110

```



/ILLEGAL AUTO INDEX TEST 7

3666 7200 CLA  
3667 5670 JMP I .+1  
3670 0124 AND7  
3671 0050 K50,  
50

0124 0124 \*124  
0125 0450 AND7,  
5526 AND I 50  
0126 3672 JMP I .+1  
RET7 /TEST INSTRUCTION

3672 3672 \*K50+1  
3673 1671 RET7,  
7440 TAD I K50  
3674 7482 SZA  
HLT  
CLA  
DCA 50 /ERROR. AC SHOULD BE ZERO  
/AND I 50 ALTERED (50)

3675 7200  
3676 3050

/ILLEGAL AUTO INDEX TEST 8

3677 7200 CLA  
3700 9701 JMP I .+1  
3701 0120 AND0  
3702 0030 K30,  
30

0120 0120 \*120  
0121 0430 AND0,  
5522 AND I 30  
0122 3703 JMP I .+1  
RET0 /TEST INSTRUCTION

3703 3703 \*K30+1  
3704 1702 RET0,  
7440 TAD I K30  
3705 7482 SZA  
HLT  
CLA  
DCA 30 /ERROR. AC SHOULD BE ZERO  
/AND I 30 ALTERED (30)

3706 7200  
3707 3030

/ILLEGAL AUTO INDEX TEST 9

3710 7200 CLA  
3711 3000 DCA 0  
3712 9713 JMP I .+1  
3713 0074 IAIT9,  
AND9

0074 0074 \*74  
0075 0400 AND9,  
5476 AND I 0  
0076 3714 JMP I .+1  
RET9 /TEST INSTRUCTION

3714	3714	1436	*IAITS9+1	
3715	3715	7440	RET9, TAD I K0	
3716	3716	7402	SEA	
			HLT	
3717	3717	7200	CLA	/ERROR, AC SHOULD BE ZERO
3720	3720	3000	DCA 0	/AND I 0 ALTERED (0)

/ILLEGAL AUTO INDEX TEST 10

3721	3721	7200	CLA	
3722	3722	5723	JMP I .+1	
3723	3723	0070	IAIT10, AND10	
			*70	
0070	0070	0407	AND I 7	/TEST INSTRUCTION
0071	0071	5472	JMP I .+1	
0072	0072	3724	RET10	
			*IAIT10+1	

3724	3724	1446	RET10, TAD I K0007	/ERROR. AC SHOULD BE ZERO
3725	3725	7440	SEA	
3726	3726	7402	HLT	/AND I 7 ALTERED (7)
3727	3727	7200	CLA	
3730	3730	3007	DCA 7	

/CHECK FOR TTY BELL

3731	3731	1347	TAD BLCNT	
3732	3732	7001	IAC	
3733	3733	3347	DCA BLCNT	
3734	3734	1347	TAD BLCNT	
3735	3735	1350	TAD RNCNT	
3736	3736	7640	SEA CLA	
3737	3737	5746	JMP I K200	
3740	3740	3347	DCA BLCNT	
3741	3741	1351	TAD BELCOD	
3742	3742	6046	TLS	
3743	3743	6041	TSF	
3744	3744	5343	JMP .-1	
3745	3745	5746	JMP I .+1	
3746	3746	0200	K200,	
3747	3747	0000	BLCNT,	
3750	3750	4762	RNCNT, -3016	
3751	3751	0207	BELCOD, 207	

4010	4010	0000	*4010	
4011	4011	0000	STR,	
4012	4012	1220	0	TAD JMP1X
4013	4013	5001	DCA 1	

4014 3002 DCA 2  
4015 3003 DCA 3  
4016 2211 ISE STR  
4017 5611 JMP I STR  
4020 5402 JMP IX, 5402

PROCESSOR IOT TEST  
4200 7300 PAGE  
4201 4602 PIOTST, CLA CLL  
4202 4011 JMS I .+1  
STR

PROCESSOR IOT TEST 1  
4203 7360 CLA CMA CLL CML  
4204 6007 CAF  
4205 7410 SKP  
4206 7402 HLT  
4207 7420 SNL  
4210 7440 SZA  
4211 7402 HLT  
*5203  
5MP*

PROCESSOR IOT TEST 2  
4212 6040 SPF  
4213 7410 SKP  
4214 7402 HLT  
4215 6041 TSF  
4216 7402 HLT  
4217 6007 CAF  
4220 6041 TSF  
4221 7410 SKP  
4222 7402 HLT  
4223 6003 SRQ  
4224 7410 SKP  
4225 7402 HLT

PROCESSOR IOT TEST 3  
4226 6007 CAF  
4227 6040 SPF  
4230 6003 SRQ  
4231 7402 HLT

PROCESSOR IOT TEST 4  
4232 6007 CAF  
4233 6035 KIE  
4234 7410 SKP  
4235 7402 HLT  
4236 6040 TSF  
4237 6041 SPF  
4240 7402 HLT  
4241 6003 SRQ  
4242 7410 SKP  
4243 7402 HLT

/CLEAR ALL FLAGS, AC, AND LINK  
/CAF SHOULD NOT SKIP  
/CAF FAILED, AC AND LINK SHOULD BE ZERO  
/SET PRINTER FLAG  
/SPF SHOULD NOT SKIP  
/SPF OR TSF FAILED  
/CLEAR ALL FLAGS, AC, AND LINK  
/CAF FAILED, TTY FLAG SHOULD BE CLEAR  
/SKIP IF INTERRUPT REQUEST  
/SRQ FAILED OR SPURIOUS INTERRUPT OCCURED  
/CLEAR ALL FLAGS, AC, LINK, AND ENABLE TTY INTERRUPT  
/SET PRINTER FLAG  
/SKIP IF INTERRUPT REQUEST  
/SRQ FAILED OR CAF FAILED TO ENABLE TTY INTERRUPT  
/CLEAR ALL FLAGS, AC, AND LINK  
/DISABLE TTY INTERRUPT, (AC 11 EQUALS ZERO)  
/KIE SHOULD NOT SKIP  
/SET PRINTER FLAG  
/SPF OR TSF FAILED  
/SKIP IF INTERRUPT REQUEST  
/KIE FAILED TO DISABLE TTY INTERRUPT OR SRQ FAILED

```

4244 72C1
4245 6035
4246 6040
4247 6041
4250 7402
4251 6003
4252 7402

/PROCESSOR IOT TEST 5
CLA IAC
KIE
SPF
TSF
HLT
SRO
HLT

```

```

/PROCESSOR IOT TEST 6
CAF
TAD
DCA
ION
SKP
HLT
SKON
SKON
SKP
HLT
JMP
HLT

BACK13, .+3
HLT

/PROCESSOR IOT TEST 7
CAF
TAD
DCA 2
ION
IOF
SKP
HLT
SKON
SKP
HLT
JMP
HLT

BACK14, .+1
HLT

/PROCESSOR IOT TEST 8
CAF
TAD
DCA 2
ION
IOF
SKP
HLT
SKON
SKP
HLT
JMP
HLT

BACK14, .+1
HLT

```

```

4271 6007
4272 1304
4273 3002
4274 6001
4275 0002
4276 7410
4277 7402
4300 6000
4301 7410
4302 7402
4303 5306
4304 4305
4305 7402

/PROCESSOR IOT TEST 9
CAF
CMA
GTF
SKP
HLT
AND
SZA
HLT

/PROCESSOR IOT TEST 9
CLA
CMA
CLL
CML

```

```

4306 6007
4307 7040
4310 6004
4311 7410
4312 7402
4313 0064
4314 7440
4315 7402

/PROCESSOR IOT TEST 9
CAF
CMA
GTF
SKP
HLT
AND
SZA
HLT

/PROCESSOR IOT TEST 9
CLA
CMA
CLL
CML

```

```

/ENABLE TTY INTERRUPT (AC11 IS SET)
/SET PRINTER FLAG
/SPF OR TSF FAILED
/SKIP IF INTERRUPT REQUEST
/KIE FAILED TO ENABLE TTY INTERRUPT OR SRO FAILED

```

```

/CLEAR ALL FLAGS, AC, AND LINK
/TURN INTERRUPT ON
/ION SHOULD NOT SKIP
/SKIP IF INTERRUPT ON AND TURN INTERRUPT OFF
/SKON FAILED TO SKIP OR ION FAILED
/SKIP IF INTERRUPT ON AND TURN INTERRUPT OFF
/SKON FAILED
/ILLEGAL INTERRUPT OCCURRED

```

```

/CLEAR ALL FLAGS, AC, AND LINK
/TURN INTERRUPT ON
/TURN INTERRUPT OFF
/IOF SHOULD NOT SKIP
/SKIP IF INTERRUPT ON AND TURN INTERRUPT OFF
/IOF FAILED
/ILLEGAL INTERRUPT OCCURRED

```

```

/CLEAR ALL FLAGS, AC, AND LINK
/GET INTERRUPT FLAGS
/GTF SHOULD NOT SKIP
/MASK
/GTF FAILED, (AC SHOULD EQUAL 0000)
/SET LINK AND AC
/GET INTERRUPT FLAGS, (AC SHOULD EQUAL 4000)

```

4320 7420  
4321 7422  
4322 0064  
4323 7124  
4324 7430  
4325 7440  
4326 7422

SNL  
HLT  
AND K5200  
CLL RAL  
SZL  
SEA  
HLT

/LINK SHOULD BE 1  
/MASK  
/AC SHOULD EQUAL ZERO  
/GTF FAILED

4327 6007  
4330 6040  
4331 6004  
4332 0064  
4333 7006  
4334 7004  
4335 7430  
4336 7440  
4337 7402

/PROCESSOR IOT TEST 10  
CAF  
SPF  
GTF  
AND K5200  
RTL  
RAL  
SEL  
SEA  
HLT

/CLEAR ALL FLAGS, (AC, LINK, AND ENABLE TTY INTERRUPT  
/SET PRINTER FLAG  
/GET INTERRUPT FLAGS, (AC SHOULD EQUAL 1000)  
/MASK  
/PUT INTERRUPT BUS- (AC SHOULD EQUAL 4000)  
/FLAG INTO LINK, (AC SHOULD EQUAL ZERO)  
/GTF FAILED TO GET INTERRUPT BUS FLAG

4340 6007  
4341 1356  
4342 3002  
4343 6001  
4344 6004  
4345 0064  
4346 6000  
4347 7402  
4350 7102  
4351 7012  
4352 7430  
4353 7440  
4354 7402  
4355 9360  
4356 4357  
4357 7402

/PROCESSOR IOT TEST 11  
CAF  
TAD  
DCA  
ION  
GTF  
AND K5200  
SKON  
HLT  
CLL BSM  
RTR  
SEL  
SEA  
HLT  
JMP  
HLT

/CLEAR ALL FLAGS  
/TURN INTERRUPT ON  
/GET INTERRUPT FLAGS, (AC SHOULD EQUAL 0200)  
/MASK  
/SKIP IF INTERRUPT ON AND TURN INTERRUPT OFF  
/GTF CLEARED INTERRUPT (ION)  
/PUT INTERRUPT BUS- (AC SHOULD EQUAL 0002)  
/FLAG INTO LINK, (AC SHOULD EQUAL ZERO)  
/GTF FAILED TO GET INTERRUPT FLAG ←  
/ILLEGAL INTERRUPT OCCURED

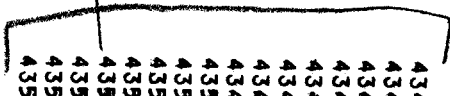
4360 7320  
4361 1375  
4362 3002  
4363 6005  
4364 7410  
4365 7402  
4366 7420  
4367 7440  
4370 7402  
4371 6000  
4372 7402  
4373 5774  
4374 4400  
4375 4376  
4376 7402

/PROCESSOR IOT TEST 12  
CLA CLL CML  
TAD  
DCA  
RTF  
RTF  
SKP  
HLT  
HLT  
SNL  
SEA  
SKON  
HLT  
JMP I  
PTST14  
HLT

/RESTORE ALL FLAGS  
/RTF SHOULD NOT SKIP  
/LINK SHOULD BE ZERO  
/AC EQUALS ZERO  
/RTF FAILED, LINK AND AC SHOULD BE ZERO  
/SKIP IF INTERRUPT ON AND TURN INTERRUPT OFF  
/RTF FAILED TO TURN INTERRUPT ON  
/ILLEGAL INTERRUPT OCCURED

7402

5340



```

4400 6007 /PROCESSOR IOT TEST 13
4401 1215 PTST14, CAF
4402 5002 TAD BACK17
4403 7330 DCA 2
4404 6005 CLA CLL CML RAR
4405 7420 RTF
4406 7402 SNL
4407 6000 HLT
4410 7402 SKON
4411 6007 HLT
4412 7300 CAF
4413 5614 CLA CLL
4414 2677 JMP I .+1
4415 4416 INTERST
4416 7402 BACK17, .+1
      HLT

```

5

```

/AC EQUALS 4000
/RESTORE ALL FLAGS
/RTF FAILED TO RESTORE LINK
/SKIP IF INTERRUPT ON AND TURN INTERRUPT OFF
/RTF FAILED TO TURN INTERRUPT ON
/CLEAR ALL FLAGS, AC, LINK, AND ENABLE TTY INTERRUPT
/GO TO INTERRUPT TESTS
/ILLEGAL INTERRUPT OCCURED

```



4000	11100000	11111111	10000000	00000000	00000000	00000000	00000000	00000000	00000000
4100	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000
4200	11111111	11111111	11111111	11111111	11111111	11111111	11111111	11111111	11111111
4300	11111111	11111111	11111111	11111111	11111111	11111111	11111111	11111111	11111110
4400	11111111	11111110	00000000	00000000	00000000	00000000	00000000	00000000	00000000
4500	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000
4600									
4700									

5000  
5100

5200  
5300

5400  
5500

5600  
5700

6000  
6100

6200  
6300

6400  
6500

6600  
6700

7000  
7100

7200  
7300

7400  
7500

7600  
7700



A1TST3	3622	K1010	3625	OUTT14	3367
AND1	4000	K110	3660	PIOTST	4200
AND10	0070	K1111	0062	PTST14	4400
AND2	2173	K1234	0177	RET1	3604
AND3	1173	K1172	0173	RET10	3724
AND4	0574	K1173	0174	RET2	3615
AND5	0372	K1174	0175	RET3	3626
AND6	0130	K1175	0176	RET4	3637
AND7	0124	K1176	0172	RET5	3650
AND8	0120	K11777	0037	RET6	3661
AND9	0074	K200	3746	RET7	3672
BAC13	3345	K2010	3614	RET8	3703
BAC14	3370	K210	3647	RET9	3714
BAC15	3412	K2525	0054	RNGCNT	3750
BACK1	2713	K30	3702	RTF	6005
BACK10	3236	K3777	0021	SKN	6000
BACK11	3311	K4	0065	SPF	6040
BACK12	3326	K4010	3603	SRQ	6003
BACK13	4267	K410	3636	STR	4011
BACK14	4304	K4400	0052	TP0	0202
BACK15	4356	K4444	0056	TP177	0377
BACK16	4375	K4577	0053		
BACK17	4415	K50	3671		
BACK2	2761	K5200	0064		
BACK3	2735	K5252	0061		
BACK4	3013	K5555	0063		
BACK5	3044	K5777	0022		
BACK6	3076	K6666	0055		
BACK7	3124	K6777	0023		
BACK8	3146	K7070	0057		
BACK9	3243	K7377	0024		
BELCOD	3751	K7977	0025		
BLCNT	3747	K7677	0026		
BSN	7002	K7737	0027		
CAF	6007	K7757	0031		
GTF	6004	K7767	0032		
IAIT1	3600	K7773	0033		
IAIT10	3723	K7775	0034		
IAIT89	3713	K7776	0035		
INTEST	2677	K7777	0020		
JMP1X	4020	K1E	6035		
K0	0036	OUT1	2712		
K0001	0051	OUT10	3235		
K0003	0047	OUT2	2760		
K0007	0046	OUT3	2734		
K0017	0045	OUT4	3012		
K0037	0044	OUT5	3043		
K0077	0043	OUT6	3075		
K0177	0042	OUT7	3123		
K0377	0041	OUT8	3145		
K0707	0060	OUT9	3212		
K0777	0040	OUTT13	3344		

ERRORS DETECTED: 0

LINKS GENERATED: 0

RUN-TIME: 20 SECONDS

2K CORE USED